

(Confidential.)

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CHINA:

RECONNAISSANCE JOURNEY THROUGH THE CENTRAL AND
WESTERN PROVINCES, FROM PEKING THROUGH
SHANSI, SHENSI, KANSUH, AND SIN-KIANG
TO LADAKH AND INDIA.

TOGETHER WITH NOTES ON THE DISTRICTS ADJOINING THE
ROUTE TAKEN AND THE ROADS TRAVERSING THEM.

COMPILED,

*From various sources in the Intelligence Branch of the Quarter-Master General's
Department in India,*

BY

COLONEL MARK S. BELL, V.C., A.D.C., *Major, R.E.,*
Deputy Quarter-Master General, Intelligence Branch.

IN TWO VOLUMES.

VOL. II.

HAMI *via* YARKAND TO INDIA.

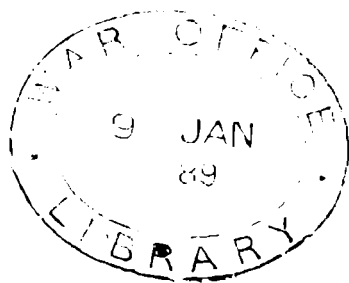


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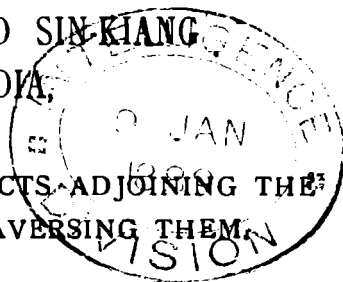
1883.

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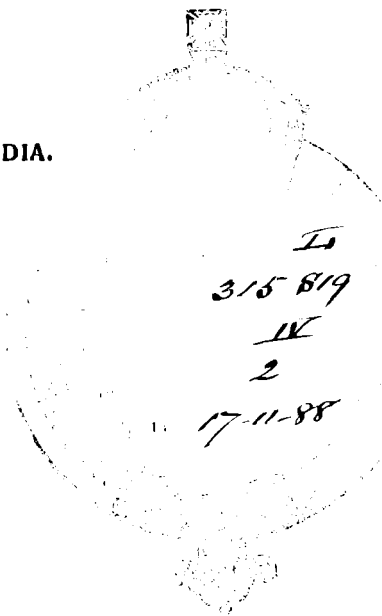
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COLONEL MARK S. BELL, V.C., A.D.C., *Major, R.E.*,
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NOTE.

In this work the pages are numbered consecutively in their respective parts ; Part I, Volume II, being numbered in continuation of Part I, Volume I, and Part II (Routes) of each volume in the same manner.

M. S. B.

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VOLUME II.



HAMI *via* YARKAND TO INDIA.

CHINA:

ARECONNAISSANCE JOURNEY THROUGH THE CENTRAL AND WESTERN PROVINCES.

¹HAMI TO TOKSUN. (*Carey*.)

22nd November.—"Sim Kargha," in plain, $17\frac{1}{2}$ miles. Left Hami this morning *en route* to Turfan. The road, which is good, continues along plain covered with reedy grass right up to rest-house. Passed two fresh springs of water *en route*. Supplies to be had at rest-house, but at very high prices. Weather fine and clear. From here there is a straighter and nearer road to Turfan, but it is very seldom used owing to the long strip of desert, void of wood, grass, and water, that has to be crossed, together with fierce winds that prevail very often for several days.

23rd November.—"Tograchi," in plain, 15 miles. The road, which is good, continues along plain covered with reedy grass up to $4\frac{1}{2}$ miles, where there is a small fort and village with a nice patch of cultivation. From here the vegetation becomes a little scanty up to the 11th mile, when cultivation begins again and continues up to rest-house. At $12\frac{3}{4}$ and $13\frac{3}{4}$ miles crossed two small streams, which take their rise from springs.

Supplies plentiful here at high prices. Weather cloudy during the day, with cold, clear night.

24th November.—Jigda village, in plain, $12\frac{1}{4}$ miles. The road, which is good, still continues along grassy plain and running with the mountains. At $1\frac{1}{4}$ miles left the high-road and kept a little nearer the mountains to reach this village, where supplies are to be had at more reasonable rates than at the rest-house; and as you enter a long strip of desert from here, supplies are taken from Jigda village. The name of the 3rd stage is Taranchi and lies S.-W. $\frac{1}{2}$ W., $4\frac{1}{2}$ miles from Jigda. Weather fine and clear.

25th November.—Rested to-day and took the sun's double meridian altitude; \odot $51^{\circ} 48'$.

26th November.—"Urdaklik," $13\frac{1}{2}$ miles, in plain. Left the village and continued along plain, now scant of vegetation, striking the high-road at $15\frac{1}{2}$ miles, and encamped by an old rest-house, where reedy grass and water are plentiful. Wood scarce. There is a patch of cultivation here, but no houses; only one Chinaman resides in the old rest-house. Weather cloudy and cold.

¹ Mr. Carey travelled with pack-animals.

27th November.—"Sarik Kumish," 13 $\frac{1}{4}$ miles, in plain. Left the half-way house and continued along plain, now undulating and scant of vegetation in many places. At the end of 10th mile reached the 4th stage, "Lo Dhung," with spring. Leaving stage 1 $\frac{1}{4}$ miles further brought us to two roads running to Turfan. The one nearest the mountains is the high-road with rest-houses; the other is the old road and is shorter by one march, so we have chosen the shorter and will pitch tents. Road good, but a little stony. Coarse grass fairly plentiful at camp. Water a little brackish. Wood not over-plentiful. In the distance away to the south a range of low hills looms out. Weather clear and cold at night.

28th November.—"Shilder Kumish," 12 miles, in small glen. Continued along plain, now a stony, barren waste, up to 8 $\frac{1}{2}$ miles, with gentle descent all the way. From here entered low undulating hills (offshoots from the mountains) with gentle ascents and descents up to camp, where there is the remains of an old rest-house, with a narrow strip of reedy grass and a spring slightly brackish. No fuel. Weather fine and clear, with cold night.

29th November.—Camp among low undulating hills, 28 $\frac{3}{4}$ miles. Continued across low undulating hills, with gentle ascents and descents. The whole plain has now become a conglomeration of low undulating hills, which are arid and barren in the extreme, and very stony in places. At the 19th mile reached a rest-house called Otra Gaima, now in ruins, with a small patch of grass and a spring of brackish water. Rested here until 7 P.M., when we made a march of another 9 $\frac{3}{4}$ miles, still over low undulating hills, and encamped for the night. Weather clear and very cold at night.

30th November.—Camp in valley, 28 $\frac{1}{4}$ miles. Another long march across low undulating hills and glens, and passing at 19 $\frac{1}{4}$ miles a rest-house, now in ruins, with a little grass and a well of brackish water. At camp there is a small patch of reedy grass and spring. No wood. Road good but stony. Country, barren waste.

1st December.—Village of Chiktem, 25 $\frac{1}{4}$ miles, in valley. Another long march across barren waste with low undulating hills. At 6 $\frac{1}{2}$ miles passed an old rest-house, and also at the 10 $\frac{3}{4}$ mile; both are in ruins. At the end of the 8th mile left the desert and entered on a long belt of reedy grass. Soil saline. At the 22nd mile struck again the high-road.

2nd December.—"Kargha Utra," in valley, 16 $\frac{1}{4}$ miles. Marched along valley with low undulating hills to the south of road, passing at the 3 $\frac{1}{2}$ and 6 $\frac{1}{4}$ mile two small villages. Road excellent, with reedy grass on both sides for most of the way. There is a small patch of cultivation here with two houses.

3rd December.—"Pichan," 9th stage, 8 miles, in valley, with sand-hills, on south side of road. A short march along valley, with gentle descent, entering cultivation at the 5th mile, where there are two small forts. Pichan or Pachan is a large straggling village with several miles of cultivation. Weather a little cloudy. The bazár, &c., is inside a mud fort. Took the sun's meridian altitude to-day; 49° 41' inside the fort. Population: Turks with a number of Tunganis and Chinese. (*Dalgleish.*)

The town itself is very small, being enclosed within walls, 400 yards in length either way. These walls are built of mud, and are about 25 feet in height. There is one street containing a few good shops, where ordinary articles of dress and consumption are sold.

Pidjan.

It is situated in a rich oasis some 10 miles in length and about 3 in breadth, in which are numerous hamlets. There are only about 100 men in garrison at Pidjan, but there is also a small fort at a place called Shigatai, 30 miles to the east of Pidjan. This fort contains a garrison of 200 men. (*Younghusband.*)

4th December.—“Lemstin,” or “Lemjin,” 10th, stage 15 $\frac{3}{4}$ miles, in valley, with high sand-hills on south side of road. Half a mile from Pichan crossed a small stream, and at the end of 2nd mile left cultivation and entered on barren waste with gentle ascent up to 5 $\frac{1}{2}$ miles. From here the road descends gently to stage and enters cultivation again at the 12th mile, and crosses two small streams at 10 $\frac{3}{4}$ and 13 $\frac{3}{4}$ miles. Lemjin has a large patch of cultivation and many farm-houses.

5th December.—“Singim,” 11th stage, 18 $\frac{3}{4}$ miles, at mouth of gorge. On leaving Lemjin crossed stream and soon entered on barren waste up to nearly the 9th mile, when cultivation again commences and extends for several miles along valley with many farm-houses. At 12 $\frac{1}{2}$ miles passed a single sarai, and at the 14th mile left the valley and entered the sand-hills by a gorge. There are only 2 or 3 sarais here.

6th December.—Turfan, 12th stage, 19 miles. Left mouth of gorge and entered valley, an arid waste, but to the south and southwest of road there is a large extent of cultivation. At 12 $\frac{1}{4}$ miles joined the high-road from the city of Lukching and entered cultivation at 15 $\frac{3}{4}$ miles. On nearing Turfan the road runs through ruins of an old city and passes a large tomb with pillar, good, 200 feet high. At 17 $\frac{3}{4}$ miles reached east wall of the Chinese town, and 1 $\frac{1}{4}$ miles further reached the Muhammadan city, which we entered, and put up in a trader's serai.

From east to west gate of city W. by N.

7th and 8th December.—Rested at Turfan and reduced our caravan, paying off part of our Turkish servants, and also cashed several currency notes at a very heavy discount. Turfan, like Hami, is near the southern slopes of the Tian-shan, and is one of the largest towns in eastern Turkistán. Climate very hot in summer and cold in winter; water is from wells chiefly, and irrigation is carried on by means of underground canals. (*Dalgleish.*)

Turfan consists of two distinct towns, both of which are walled.

The eastern one is occupied by Chinese and the western one by Turkis. They are situated about a mile apart. The Chinese town has a population of about 3,000 or 4,000, including, perhaps, 800 or 1,000 soldiers. It is built in the shape of a square, with four massive gateways, of brick. Each gateway is covered by a semi-circular bastion. The walls (except at the gateways) are built of mud; they are about 35 feet high, 20 to 30 feet thick, and loopholed at the top. Each face is 800 yards in length. Outside the main wall is a level space 15

Turfan.

yards in width, and beyond it a musketry wall, 8 feet high, and beyond that, again, a ditch 12 feet deep and 20 feet wide at the top. This ditch can be filled with water if necessary. At the four angles there are square masonry towers, and between these and the gateway are small square bastions, two to each face.

There are a few shops in the Chinese town, but most of the trade is carried on in the Turki town, where there is one street about $1\frac{1}{4}$ miles in length, containing a number of very good shops. Russian cotton goods and ironmongery are sold in considerable quantities.

The Turk town is surrounded by a mud wall now falling into ruins. It is about 25 feet high and surrounded on the outside by a ditch 10 feet deep and 15 feet wide at the top.

The oasis round Turfan is some 8 miles in length and 4 miles in width. Cotton is very extensively grown on it, also wheat. (*Young-husband.*)

9th December.—"Dah-din," 16 miles, in valley. Left Turfan this morning, and continued along valley over a rough and rather stony road. Country the most of the march a barren waste. At 3 and $4\frac{3}{4}$ miles crossed small streams and also a small mountain stream on reaching rest-house, which is situated in the barren waste, with only a little coarse scrub. Wood and grass sold at the rest-house, but no other supplies to be had.

10th December.—"Tokhtasun," $14\frac{1}{2}$ miles, in valley. Shortly after leaving Dah-din the valley becomes fertile, reaching cultivation at the 12th mile. At $10\frac{1}{2}$ miles strike stream and follow it up to 14th mile, where it is crossed by a small bridge. Tokhtasun, a small town within mud wall fort, has a fine tract of cultivation, with many farm-houses dotted over the tilled land. Population: Turks, with a large body of Tunganis and Chinese. Good road all the way. Weather excellent, with clear, frosty nights. Put up in a small sarai for the night. (Chinese and Tunganis very inquisitive, and seem to take much interest in our two English dogs.) (*See page 386.*)

11th December.—Left sarai this morning and put up in the Beg's house and rested for the day.

TOKSUN TO URUMTSI AND BACK. (*See Route No. 8.*)

12th December.—Left Tokhtasun this morning for Urumchi. On leaving Tokhtasun ascended gently for nearly 29 miles in a northerly direction and entered the southern slopes of the Tian-shan mountains. At $47\frac{1}{2}$ miles passed the small town of Dawan Chin. Inside mud fort in bad repair. Wheat and barley cultivation extensive. Population: Tunganis, with a few Chinese and Turks. From Dawan Chin travelled along valley for $33\frac{1}{2}$ miles W. N.-W., then entered low undulating hills on to Urumchi, $14\frac{1}{4}$ miles in a north-westerly direction. Reached Urumchi on the 16th and put up in a house kept by a Chinaman. On the 18th called on Lu Joshwai, the Governor-General of Turkistán, who received us very kindly, and on leaving escorted us to the outer door of the yamen, and the next morning sent us a present of sheep, rice, flour, fowls, firewood, and coal; also met my old friend Ying Lao Tai, who was very kind. Urumchi is now the largest city in eastern Turkistán and has several mud wall enclosures,

each a little town in itself. There is also a large bazar with many large shops nicely got up and filled with Chinese and Russian wares. The population is large and consists of Manchus, Chinese, Tunganis, and Turks, traders from all parts of Chinese and Russian Turkistán. The city covers several square miles and has extensive wheat and barley crops and large coal-fields. Urumchi has now become the seat of government, and is situated in a broad valley, watered by a large stream flowing from the southern side of the mountains. The climate is very cold and severe during the winter, which sets in about the middle of November and lasts up to March. During our short stay it snowed very constantly. On the 23rd bade good-bye to Lu Joshwai through his deputy, and Mr. Carey received a present of a fine pony from him.

24th December.—Left Urumchi this morning and returned again to Tokhtasun in the afternoon of 27th.

28th December.—Rested to-day at Tokhtasun and took the sun's double meridian altitude; ☉ $47^{\circ} 28' 30''$.

FORT ZAIKAN TO HAMI.

Prjevalski and his party, consisting of 13 in all, 10 being Cos-
Fort Zaisan to Barkul,
Hami and Tibet. sacks, passed in 1879 from Fort Zaisan along the western and southern shores of Lake Uliungur, into which discharges the Urungu, to the Chinese fort of Bulantohoi, situated at the mouth of the Urungu. They then followed this river, which has a course of about 300 miles, and derives its source from the Altai mountains, cutting a deep channel through a plain lying between them and the Tian-shan range.

Not long before the expedition passed this way, a large body of Kirghiz, numbering about 9,000, had wintered on the Urungu, having escaped from the control of the Russian authorities in Semipalatinsk.

Prjevalski saw numerous traces of their encampments along a tract extending over 100 miles up the Urungu, where everything edible had been devoured, even the bark of the poplar trees, which had been felled and stripped, while the ground was strewn with the carcasses of their dead sheep. This incident serves to illustrate the great change that has come over Central Asia since the days when Chenghis Khan and other great conquerors found sufficient sustenance for their vast armies.

The natives of the upper valley of the Urungu, or its chief tributary the Bulugun, are Turgute-Kalmaks, whose kinsmen, inhabiting north-western Zungaria at the foot of the Tarbagatai range, are the descendants of those Kalmaks, mentioned on page 315. They are subjects of the Emperor of China, and remnants of them, who escaped the Dungan insurrection, now occupy the lands about Yulduz and Karashahar.

After ascending the Urungu and Bulugun, Prjevalski crossed a sandy waste to the foot of the Tian-shan, called by him the desert of Zungaria, after the country of which it forms part. It is bounded on three sides by mountains, while on the east, where the Altai and

Tian-shan ranges approach one another, an isthmus of sand unites it with the Gobi.¹ This connection existed in distant ages when the whole area, of what is now known as the Gobi, was covered by a sea mentioned in Chinese annals as Kan-hai.² (See page 332.) The Zungarian desert formed a great gulf of this sea, communicating with another vast water-spread, the Aralo-Caspian. Prjevalski describes at some length its climate, soil, flora, and fauna. The most characteristic of the flora of this, and indeed the whole of the Central Asian plains and deserts, is the saxaul (*Haloxylon ammodendron*), called by the Mongols *zak*, a tree or shrub growing to a height of 14 feet, and a thickness, near the root, of half to three quarters of a foot. It is most commonly met with in the drift-sands, particularly in Ala-shan and in Russian Turkistán. It is by no means attractive in appearance; it gives no shade, and the sand round it is devoid of all other vegetation. But its usefulness to the nomad is beyond description; it supplies him with fuel, and his camels with food; its wood, though heavy and hard, is exceedingly brittle,—so much so that a large log of it, when struck with the axe, will fall to pieces. Hence it is of no use for building purposes, but it burns splendidly, almost like coal, and retains its heat a long time. Its geographical distribution is very wide in inner Asia. It is met with throughout the vast tract extending from the Caspian Sea on the west, to the limits of China proper on the east, and through nearly 12° of latitude, from the parallel of Lake Uliunghur on the north to Tsaidam on the south, where it grows at a height of 10,000' above the sea; but its chief habitat is the Gobi and northern Ala-shan, Zungaria, and Russian Turkistán.

Of the fauna of Zungaria, we must mention the wild horse and the wild camel, the Bactrian two-humped species. Both these animals inhabit the wildest and least accessible parts of the desert. The wild horse, which palæontologists have shown was once widely distributed over Europe and Asia, is now only met with in the corner of the Zungarian desert; but the wild camel was also observed by Prjevalski in the desert of Lob, where he was the first European to see it since the Venetian traveller, Marco Polo, six centuries ago, passed this way.

On turning southward from the valley of the Bulugun, he soon left behind him the Altai and approached the Tian-shan, visible in the clear atmosphere of the desert 130 miles off, while its highest peak, Bogd ula, could be seen before leaving the Urungu, 160 miles distant. Among its spurs he found a few Chinese settlers, but they were not so numerous as they had been before the Dungan insurrection, and they had entirely driven away the nomads.

The natives of Hami are descended from the ancient Uighurs and are called Taranchi. They wear a national dress, consisting of an ample, flowered khalat, or robe, and a cap of a peculiar shape, worn at the back of the head. The women are good-looking, black-eyed and black-haired, with splendid white teeth, but unfortunately they follow the Chinese custom of painting their faces. They walk out

¹ Some chains of mountains between the Tarbagatai and Tian-shan border it on the west.

² Or "the dry sea."

unveiled, and are generally free and easy in their manners, just as they were in Marco Polo's time.

Hami is a strategical place of the highest importance, as it commands the chief roads from China proper to eastern Turkistán and Zungaria. It is the key to all the cities situated along the Tian-shan, for here a road passable for wheeled vehicles crosses the narrowest part of the desert to An-si-chau.¹ By this route, 250 miles long, Prjevalski passed, resting his caravan, much exhausted by the fiery ordeal they had gone through, in the environs of Sha-chau.

Sha-chau is one of the best oases of Central Asia (?) It is situated at the foot of the Nan-shan range, at a height of 3,700' above the sea, and occupies an area of about 200 square miles, the whole of which is thickly inhabited by Chinese. Sha-chau is interesting, as the meeting-place of three expeditions started independently from Russia, India, and China. (*See page 340.*)

For description of journey into Tibet *see page 279.*

NARRATIVE OF JOURNEY—*continued from page 340.*

From Hami, Umiotza, or Urumtsi, was reached by the stages below:—

ROUTE No. 7.

1ST STAGE.

5th June—Hami.—The old city gives cover up to the walls of the new Chinese city or fort; a broad, but shallow, cultivated ravine gives access to the walls of the old city, beyond which is a good position for bombarding the town.

But few camels were seen about Hami; donkeys, of an average size and strength, were alone numerous. They work well in caravans at an average pace of 3 miles an hour. Beyond the gardens surrounding Hami, the road leads over the gravelly glacia reaching to the foot of the Tian-shan, and to the mouth of the pass, which is easily defensible. Water from a plentiful stream, which soon loses itself in the desert.

NAN-SHAN-KOW.—11½ hours.—87 *li.*—Bar. 24'3".—Temp. 82°.
(5700.)

(A small village with a few inns.)

2ND STAGE.

6th June.—Heavy rain fell during the day.

The road winds up the stony ravine, which averages 150 yards in width. It is difficult for carts, and suited for one line of traffic only. The border cliffs are steep, and the hills of indurated shale very irregular in conformation; towards the top of the pass (Bar. 23'3", Temp. 60°, Elev. 6,800') the soil is clay, soft and spongy; the hills here become rounded in outline, and there is fair grazing on their

¹ Prjevalski estimates the population at 10,000, of whom 2,000 were soldiers. Sze-chenyi gives 12,000 as the total.

sides, the top slopes of which are clothed with pines, larch, and juniper. A blue shaly soil is held up at steep slopes against the perpendicular rock. A plentiful stream flows down the pass. At its top the barometer read 21.6°; temp. 47°; elev. 8,980' (9,000', *Piassetsky*). The descent by zig-zags is steep, and leads through rounded clayey hills, covered with pasture and well wooded with stunted pines. Turning westward, the road skirts the rounded pine-clad hills, having to its north an exceedingly rich pasture valley, stretching to the low hills 2 miles distant to the south.

In August the air at the summit of the pass is cool, and the wind cold. *Piassetsky* says that snow lies there in August, and that the temperature is 11° Reaumur (F. 57°) when 30° R. (F. 100°) at Hami.

SHUNG-LIN-TAN.—9 hours.—54 *li*.—Bar. 23.35".—Temp. 53°.
(6,750'.)

(Small village.)

Deep snow lies here in the winter, but does not materially interfere with traffic, and much rain falls in July; the streams are then swollen. Ponies are reported to be plentiful in the neighbourhood; the Mongols bring them here to fatten.

There is said to be no pack-road westward except round by Barkul.

3RD STAGE.

7th June.—The road, a hard surface track, keeps down the grassy basin, which is about 6 miles wide, over a country once well cultivated, with ruined villages and farmsteads dotted over it. The soil is a gravelly clay, well suited for wheat, and well watered by streams from the Tian-shan. Several herds of camels and flocks of sheep graze here; the pasture gradually becomes poorer. To the left are the Li-houa-chan-tsy hills, and to the right the Dunshan-nornaryn-ker.

KIN-SU.—5½ hours.—55 *li*.—Bar. 24.25".—Temp. 63°. (5,750'.)

(A small village, with a few inns—see *Sketch of valley at 3 miles out, No. 42.*)

The road continues down the widening valley, passing the extensive ruins of Shi-urza. A little poor agriculture is carried on along the road. It becomes more general, as Barkul or Pa-li-kul, as the Chinese call it, is reached. The Chinese have to suit the names of foreign towns, peoples, and proper names, to the limited number of sounds expressed by their pictorial characters. I rejoice in the name of Bey-law, a word having an excellent meaning, which is everything in China. The hills to the northward have still a little snow on their highest summits, and are from 10 to 15 miles off; probable height 9,000' to 10,000'. The Tian-shan, 3 miles to south, are here steep, angular, and ribbed. Snow lies on their tops and low down in the ravines; pines clothe many of their steep slopes, which are more or less grassy to their summits.

In May snow covers the valley. The Chinese city lies 500 yards beyond the Manchu city, and has a side of about 800 yards, that of the latter being 1,400 yards.

BARKUL.—6 hours.—60 *li*.—Bar. 24'7".—Temp. 63°. (5300'.)

The Manchu city lies on ground sloping to the west, and the Chinese city on still lower ground, about a mile from the foot of the Tian-shan. Its streets are very muddy. The houses have flat roofs. Wood is obtained from the hills and freely used in the shop verandahs, &c. The Chinese have here 1,100 families and 30 shops. There are in all 60 or 70 Tungánis, or Musulmans, in the town. There seem to be plenty of children in the place, and women show themselves more than is usual. There are no Chentus (Turks) here. One thousand Manchu and 1,000 Chebing soldiery compose the garrison (on paper). They are under a Mong-tong, and the civilians under a Chen-shi-ting.

A camel-road leads from hence to

Kobdo and Ulyissutai	18 to 22 days.
Kwei-wha-cheng	54 to 56 days, and 58 days.

When using camels as carriage it is customary to calculate the stages by allowing 18 miles a day. The longer time is taken by the official route, where stations are established amongst the Mongols. The shorter are the caravan tracks, and along them are no established settlements, although Mongol tents are frequently met with. Officials get to Kwei-wha-chang in under one month from Palikul. Water and grass are alone to be got at the stations. (*See page 252.*)

Carts can go to Ulyissutai. From Hami a route goes direct to Kwei-wha-chung. It was used during the last war by detachments of troops and for the transport of stores. (*See page 252.*)

A batch of 50 ponies for sale were inspected; none very good, all rather weedy.

Rain is said to fall here frequently. The cultivation about Pa-likun is small, but capable of a very large increase, as is shown by the size of the ruined villages and number of ruined hamlets. It has a rich soil capable of anything, as it is well watered.

Early in September the nights are said to be cold.

The elevation of the lake is about 5,100'.

4TH STAGE.

8th June.—The carters fill up their straw and grain bags at the large towns, exorbitant charges being asked for all supplies at the small stations. The road, a broad, gently undulating track, continues over the basin in which the lake lies, skirting the low, rocky, and barren outliers thrown out from the main Tian-Shan range. To the north the hills are 20 miles distant. A cart-road leads over the hills to Pechan (Pidjan) and Turfan (6 days). (*See Sketch No. 43.*)

GU-KEI.—6½ hours.—50 *li*.—Bar. 25'55".—Temp. 78°. (5,400'.)
(Station.)

5TH STAGE.

9th June.—Rain. Continue as before, with the hills to northward, 8 to 10 miles distant, over a poor, grazing country, without habitations or cultivation. At 19 miles the track winds amongst low gravelly hillocks. The road is a natural one, with a hard surface.

LAPA-CHUAN.—7 hours.—63 *li*.—Bar. 23'4".—Temp. 48°. (6,750'.)
(Station, with a well.)

Heavy rain. A mule-road leads over the hills to Turfan (six days' journey).

Beyond the station the natural road undulates through low hills of shale, finding an easy passage through them. To the northward the hills look to be of some depth, and at a distance of 10 to 15 miles they rise to some height.

There is no cultivation within the hills, but abundance of sheep-grazing and in places cattle-grazing. This country of hill and plain, lake, grazing and waste, would seem to extend to Chuguchah, Kobdo, Ulyissutai and Urga. There are no nomads here, although the grazing grounds afford a fair amount of pasture.

The highest point reached during the day was Bar. 22'9". Temp. 52° (elev. 7,320'). The hills to the south are jagged and rocky, with no peaks above the snow-level.

This is a heavy stage on account of the undulating nature of the road.

URTU.—5 hours.—42 *li*.—Bar. 23'15".—Temp. 50°. (7,050'.)
(Station, with a small stream feeding ponds.)

6TH STAGE.

10th June.—The rainfall about Barkul is greater than that at Umiotza. At Umiotza and Ili about the same amounts fall. It does not pass to the south of the Tian-shan range.

The hard gravelly track, after descending along a wide flat, between low hills, traverses them by natural valleys of easy gradient—valleys from 100 to 400 yards wide. To both north and south they rise to some height, and are covered sparsely with grass. They are confused masses of cones of gravel and clay. (*See Sketch No. 44.*) There would be no difficulty in stacking this line through the Tian-shan with forage, to meet the requirements of a considerable force. Firewood can be obtained from the pine forests noted. At 15 miles a mule and cart track joins in from S. S.-W. The hills here are rocky, and rise 1,000' on either hand.

Water is not plentiful in the hills, and streams are wanting.

CHI-CHI-TAI.—6 hours.—56 *li*.—Bar. 24'75".—Temp. 62°. (5,250'.)
(Station, with a well.)

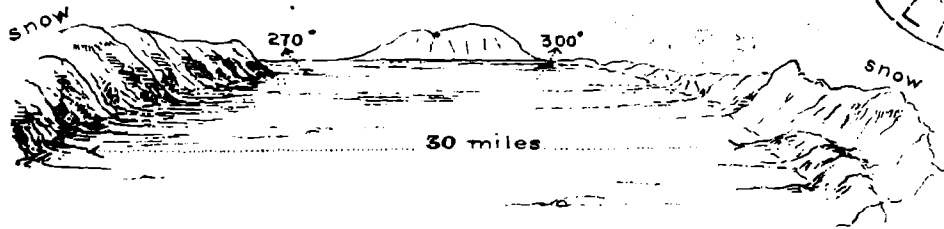
The official *li* on this side of Hami may be taken to equal .7 of the *li* of which 3 go to the mile.

The track continues down the valley at the same gentle gradient, for 2 miles, when, ascending gently, it winds through a narrow ravine, to cross a low kotal (Bar. 24'65", Temp. 75°, 5,350'), descending beyond it to traverse narrow and rocky ravines by easy gradients; in them patches of good grazing occur. At 5 miles there is a spring and small stream.

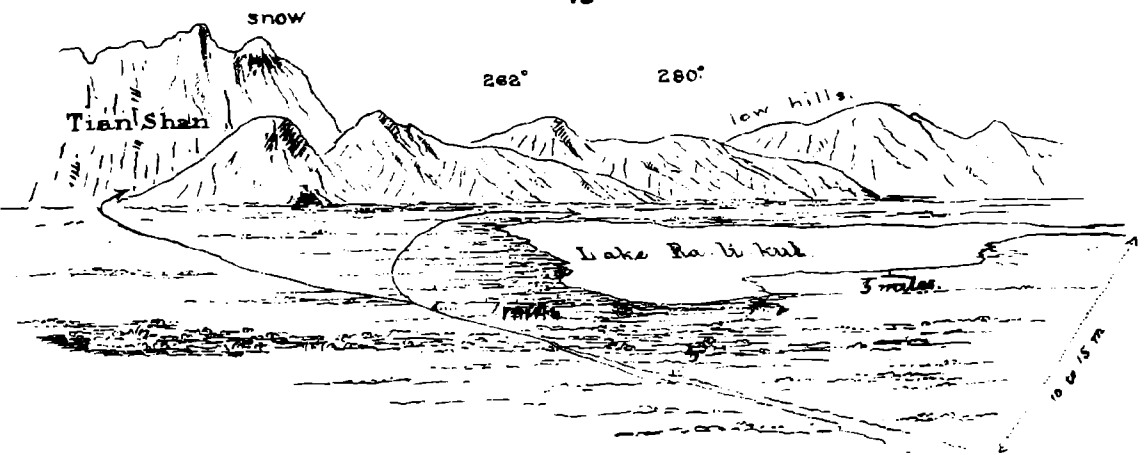
At 10 miles, looking back to the rear, the view is a mountainous one; the prevailing colour brown. (*See Sketch No. 45, giving a front*

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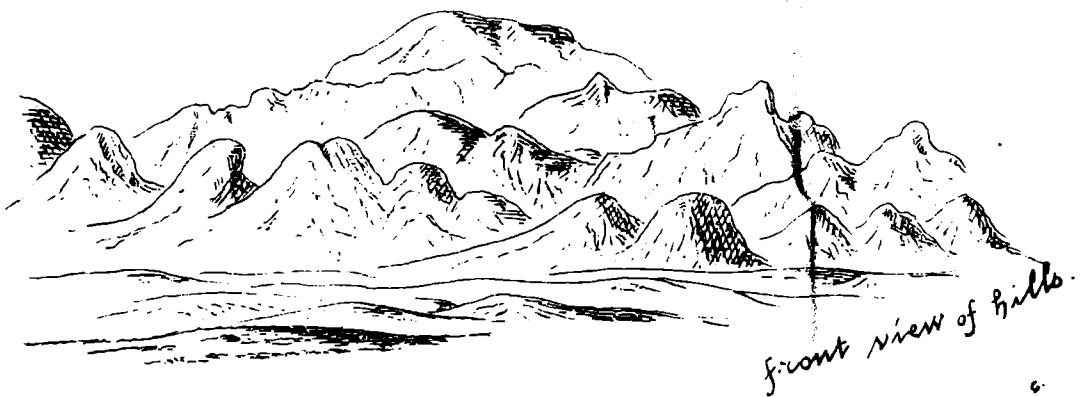
43



44



45



view of the hills.) Crossing a small upland plateau, with poor grazing, the track descends through a wide valley, bordered by low hills. (Bar. 24.6", Temp. 60°, 5,350'.) This is the highest flat-topped part of the range, and half a mile to the south a view is obtained over the Gobi. The falling slopes are there barren and broken, and an easy passage down the valleys looks likely. The soil on the plateau is soft and spongy. At 19 miles the cart-road to Turfan, with a direction of 100°, is crossed. By it Hami can be reached in seven and Turfan in five days.

SPI-KHO.—7½ hours.—66 li.—Bar. 24.7". (5,300'.)

A ruined station, with indifferent spring water, and a little grazing.

7TH STAGE.

11th June.—The track leaves the wide valley by a narrow gorge, and, undulating, traverses grassy valleys, 100 to 300 yards wide, amidst low hills. The soil of the valleys is clay. The rocky hills are very much splintered. A small stream flows down the valley. The water-parting hills lie 2 miles to the south. They are mostly rounded in outline, and composed of loose shale and spongy clay, covered with a poor heather. Others are of rocky shale, red and blue in colour, thrown up at steep angles and weather-worn into rounded slopes. (*See Sketch No. 46.*) In the valleys grass and scrub grow plentifully, and the pasture is often rich. Ruined hamlets are met with during this and the two past stages, where the best grazing is found. At 9 miles is the small station of Da-shi-to, with a small stream. Elev. 4,700'.

Gradually the hills are left, and the valleys traversed expand to a width of one mile; at 17 miles a wide grassy plain is entered, crossed by wide depressions. The main mass of hills, 3 to 4 miles to the southward, is brown in colour, and jagged in outline. No trees are to be seen anywhere; the soil is a soft, spongy clay.

The rising plain hides all view to the right, and of the low hills beyond its crest, distant about 2 miles, with others beyond them. Pasture is soon replaced by a coralline weed. Before reaching the station, several ruined hamlets are passed, with grazing about them; once cultivation; the northern hills gradually recede to a distance of 30 to 40 miles. Good grazing in all depressions—much culturable soil unoccupied.

SANG-KONG-CHIEN.—13½ hours.—115 li.—Bar. 25.1".
Temp. 75°. (4,850'.)

(A village and inns. Water from wells.)

8TH STAGE.

12th June.—The hard track continues over the steppe, crossing several depressions, 300 to 400 yards wide, and 50' deep, with grass in their bottoms only. Snow occurs on the Tian-shan range, in direction 255° round to the north-west. Ruined hamlets become numerous, and the pasture improves.

The lower range of hills fronting the Tian-shan are here rounded in outline and well covered with grass. Wild sheep, mouflon, antelope and gazelle are found in the hills, and, they say, wild horses.

MU-LAI-HO.—7½ hours.—69 *li*.—Bar. 25·62".—Temp. 70°.
(4,350'.)

A ruined village, in part reoccupied. Water is obtained from the river.

A bridle-path leads over the hills to Turfan in three days.

A few Turks are now found in the villages for the first time.

9TH STAGE.

13th June.—Crossing the Mu-lai-ho, a stream 40' wide and a foot deep, flowing in a bed 400 to 600 yards wide, the road, which is from 20 to 30' wide, and later on 10', undulates over a down-like pasture country, with a fertile clay soil. Many ruined hamlets are passed. (*See Sketch No. 47.*)

At 9 miles, beyond Tun-ching-khor, the road crosses the flat skirts of the hills stretching southwards to the Tian-shan range, 30 miles distant. The soil is clay, well watered by streams. No trees grow except around the villages. This was once a well-tilled and populous district. Wheat, peas, clover, &c., are now grown in patches only.

For 6 miles, before reaching Tsi-tai-hsien, a continuous line of farmsteads border the road (40' wide), which is much flooded by the irrigation channels run across it.

TSI-TAI-HSIEN.—7 hours.—67 *li*.—Bar. 26·16".—Temp. 78°.
(3,750'.)

(Walls of the town, of mud, in ruins.)

A town of 45 Turki and 80 Chinese families, with some 70 shops in the suburb. It is the station of 500 soldiers from Sz-chuen, under a Bazum.

A bridle-path leads to Turfan in two days.

The broad track continues over the flat, fronting the Tian-shan, at a distance of 30 to 40 miles from the snows; the well-watered oasis gradually merges into steppe, affording in places sheep and camel grazing. Horses eat the low herb covering it.

At 2½ miles a rapid stream is crossed, the waters of which run to waste, and much good land lies idle for want of cultivation.

At 11 miles is the station of Si-shih-li-lozun. The soil is clay at times, gravel at others. The snowy range dies away on a line 270°. (*See Sketch No. 48.*)

At 17 miles is an inn, and the steppe is covered with a high reedy grass, affording excellent cattle-grazing, and when chopped up good fodder for horses and mules.

At 21 miles cultivation recommences. Gu-chen lies in a well-watered and rich oasis.

GU-CHEN.—7½ hours.—70 *li*.—Bar. 27.23".—Temp. 68°. (2,650'.)
(A walled town.)

A place of importance and trade, occupied by about 1,000 Chinese families, 25 Manchu families, and 40 Turk families, with a garrison of 500 Hu-nan braves and 500 Chebing under a Ha-gi. All sorts of articles (soap, tea, candles, crockery, hardware, rope, &c.) are sold in the bazárs; and wheel-wrights' and blacksmiths' shops abound. English goods reach this place from both Kwei-wha-cheng (60 days' journey by camels,—cost of camel hire 17 taels) and Hankow. English cottons, although dearer than the same description of Russian goods, are said to be preferred; American cottons are in good repute.

Many Chinese women and children were seen in the town. The former are less under restraint than in China proper. The cramped foot is, however, still the fashion.

A Manchu city has just been completed, and will be occupied in 1888.

Camel-roads lead over the desert to Chuguchuk and Kobdo to Peking, 74 days; Ulyissutai 22 to 24 days' journey. Low hills are seen to the northward, distant 50 miles. The Tian-shan range is limited by a line bearing 270°.

In July 1876 three Chinese columns advanced simultaneously against the rebels from Gu-chen on Urumtsi and Manas, and from Hami on Turfan; each numbered about 10,000 men. There were 4,000 Dungans in Urumtsi under Beyan-Akhun, and 3,000 in each of the other towns. The Chinese force was based on Lan-chow, whence supplies were sent to Gu-chen, a main depôt. Corn was also supplied from Russia (Semi-palatinsk district). (*See pages 461, 467.*)

From Gu-chen a road leads by Lo-tsian-tsu to Chogan-oho on the borders of the Zaisan prefecture; another road is *via* Manas and Olen-bulak.

The route recommended by Sosnoffsky is considered inferior to that from Biisk over the Altai in the direction of the Orkhon river. (*See page 194.*)

From Zaisan is a caravan route to Gu-chen. It keeps up the Black Irtysh to Boluntogoi; thence it runs for 200 miles along the Urunga river up to the point of its intersection with the south Altai mountains. Thence turning direct south at 90 miles from Gu-chen, a sandy and rocky wilderness is reached, 80 miles broad, with only one well. This is traversed by a forced march of 50 hours by horses and camels. (*See page 347.*)

ROUTE FROM GU-CHEN TO THE ZAISAN POST. (*Sosnoffsky*).

From Gu-chen there are several roads—

(a) Post-road to Khobdo: (1) Bei-da-tso, (2) Huan-tso-w-hoo, (3) Dzian-dziun-obo (branch to Bulun-tokhoi), (4) Yuan-hoo, (5) O'jumbulak, (6) Sibatu-urto (near Batak-bogdo mountains), (7) Tso-gan-tungu-urto, (8) Shatsagai-urto (new branch to Bulun-tokhoi), (9) Naron, (10) Dabasu, (11) Botogol, (12) Su-chi, and (13) Khobdo.

(b) Post-road through Bulun-tokhoi to Chuguchak, (1) First eight marches along Khobdo road, (9) Bulgun, (10) Mali-kei, (11) Tso-gan-khalu-su, (12) Tsingil-gol, (13) Tsakurtai, (14) Dziak-obo, (15) Deren-deb-amo, (16) Den-ergei, (17) Kuku-modo, and (18) Bulun-tokhoi.

In all along this road 18 days' march, or about 265 miles of excellent road. From Bulun-tokhoi to the Zaisan post is 175 miles, or 8 marches, *viz.*, (1) Uran-bulak, (2) Bukhoto-kuduk, (3) Utu-bulak, (4) Uvatu, (5) Kham-taste, (6) Matenia Idol-temple, (7) Tso-gan-Obo picquet,* (8) Zaisan post.

There is another road from Gu-chen to Bulun-tokhoi, and much shorter than the last one. For the first three stations it leads along the Khobdo-Gu-chen road, then it strikes away and issues at the Tsakiurtai picquet on the Khobdo-bulun-tokhoi road, *viz.*, (1) Bai-da-tso, (2) Huan-tso-w-khu, (3) Dzian-dziun-obo, (4) Lama-dziangin-usu, (5) Hai-chin-usu, (6) Hai-chin-yalbus-usu, (7) Tsakiurtai, &c. In all 13 days, but sometimes, to shorten, omit No. 3. Excellent road. No lack of water, forage, or fuel.

Date,	Names of Places.	DISTANCES IN VERSTS.		Nature of Road, River, &c.	Remarks.
		Inter-mediate.	Total.		
18th Sept. 1875	Bi-tun-tso-chi . . .	27½	...	The Chun-shui-ho is difficult to ford .	Picquet, on the Khobdo-Gu-chen road. Spring-water, grass, wood, and shelter. Camels and carts can use the road. Frost in September. Road heavy. The usual route taken from Gu-chen is along the Khobdo route to Bouloung, and thence <i>via</i> Bulun Tochoi.
	Gurbun-tungut . . .	26½	53½	Here commences the desert known as the Gurbun-tungut, here naked and barren, and affording <i>saksaul</i> and grass; difficult in places for vehicles. In winter, want of water not felt, but other seasons more convenient for the march.	...
22nd " "	Sepkiul-tai . . . (Wells.)	50	103½	Between the 18th and 22nd much time lost by the guides losing the way. The horses suffered from hunger. From the 22nd track over clay or low barren and rocky hills.	Two large wells of good water; plenty of fuel; good underfoot-grass for camels, but poor for other cattle.

24th	"	Hoshun-hulu-sutu-usu	53	156½	.	.	.	.	Several pools of bitter salt water, in a dried-up salt lake.
25th & 30th		Haramali	33½	190½	.	.	.	.	Excellent spring in the rock at the foot of a range of hills; close by is another spring, Lapsaringen-usu; fuel and grass all round.
1st and 2nd	Oct. 1875.	Chanonzi-usu	36	226½	Road heavy over deep shifting sand	.	.	.	Two contiguous wells; 2 miles from them is a third, Yeman-usu. Here ends the desert; a hard clay road begins, but the district is still poor in water.
3rd	"	Ulan-khoshu	48½	274½	.	.	.	.	Good grass and fuel, but no water.
4th	"	Tsia-khia	48½	323½	A fatiguing march of 12 hours. A vast expanse of desert is crossed; the soil being impregnated with salt covered everything with a slight crystallized layer.	.	.	.	A small well; sufficient water for the men, but camels are not watered here when going from Zaisan, as a store has to be carried for the next march.
5th	"	Sulga-usu	30½	354	Rain and snow and intense cold.	.	.	.	This desert is worse than the Gobi. In the latter two wells were met with each day and an occasional oasis; here a well is met with every second day and an oasis is never seen.
7th	"	Hulusutu-bulik	54½	468½	Here begin the haunts of the Torgoutes. The road shortly issues into the picturesque valley of the Kobu, where there is spring-water, grass in abundance, but no wood. The chi and argal become the fuel.	.	.	.	Good abundant well.
9th	"	Bain-dalai	25½	433½	.	.	.	.	Spring.
		Yelizete (Aredina)	43	476½	.	.	.	.	Half-way is Yelizete well. (Tchorgan-Hamyr?)
		Uvatu-Yeberte	21	497½	.	.	.	.	Picquet.
		Kham-taste	30	527½	.	.	.	.	Village.
		Tso-gan-obo	65	592½	.	.	.	.	On the 13th the Russian frontier was crossed.

ROUTE FROM GU-CHEN TO THE ZAISAN POST.

Date.	Names of places.	DISTANCES IN VERSTS.		Nature of Roads, River, &c.	Remarks.
		Inter-mediate.	Total.		
14th Oct. 1875	Zaisan Post . . .	65	65½ verts or 440 miles.	.....	See Preface, page xviii.

With reference to this route, Piasetsky, who accompanied Sosnoffsky, remarks: "The road selected by our chief was neither of a commercial, scientific, or strategical value. Its only advantage lay in its being the shortest route between Gu-chen and Zaisan. I have, therefore, nothing to write concerning this arid country. At first it was devoid of water and quite deserted, but subsequently well supplied with water, and inhabited by a few nomads. The lateness of the season made our journey still less eventful, and I might even bring my account of it to a close at this point did I not think that the sequel might perhaps serve as a warning to intending travellers, and help them to avoid the dangers and useless sufferings we endured.

Before the end of the 9th day 2 horses and 2 camels had died, and all had suffered much from want of water and food.

On the 28th the party were compelled to return to the Haramali wells after wandering 34 miles in a wrong direction without finding water. Here, on the night of the 28th, a caravan was met 7 days out from Gu-chen *en route* to Kobouk-Sairy. The spring at Haramali is not over-abundant, and takes time to fill the cavity into which it runs. Two horses died on the 30th September, and a third of the camels had died within 13 days.

The Tourgouts in winter wear sheep-skins and goat-skins, and undressed leather shoes, with the hair inside. (See page 106.)

Besides this carriage-road to Zaisan, there is another and shorter bridle-path.

The road just described passes along the north border of the Gurban-tungut desert, but the other along the southern, the present post-road to Chuguchak. It passes through the following points: (1) military village of Tsi-mu-sa; (2) San-tai; (3) Tsi-pi-guan, whence a branch to Urumtsi (80 miles from Gu-chen); (4) Si-guan; (5) Khai-tsi-otza; (6) Sin-tsui; (7) Khun-ta-ban-tan; (8) Sotziantza, Sozanza, 3 marches to the north of Manass, whither a road passes through Low-hu-di (in Khun-ta-ban-tan and Sotziantza, large garrisons); (9) U-fri-di; (10) Sha-chen, whence a branch north to the valley of Kobu; (11) Ur-khu, called by the Kirghiz Ur-du; and (12) Si-kho (Shi-kho), whence to Chuguchak, 170 miles of carriage-road, and leading to the following points: Stara-usu, Olon-bulak, Bukgut, Utu, Kuldinen, Yamati, Tola-shara-khulu-su, Seter-modo, and Chuguchak. In all along this road about 400 miles—

Total from the Zaisan Post:—

To Gu-chen	440 miles.	To Tsi-a-yi-gua-ni (Great Wall)	1,136 miles.
" Barkul	640 "	" Lan-chow-fu	1,634 "
" Khami	726 "	" Tsin-chow	1,848 "
" An-sin-chow	980 "	" Han-chong-fu	2,024 "
		" Han-kou	2,870 "

10TH STAGE.

Gu-chen—14th June.—Cloudy and sultry.

Leaving the Manchu city to the south, the route, a hard and broad track, leads over the steppe, the soil of which is a culturable clay.

High grass and good grazing are plentiful; good coal, bituminous and coked, is found in the Tian-shan at a distance of 70 miles. At 12 miles the ruined village of Ta-chen is passed, and from thence to Chi-mu-sa, a once well-peopled and cultivated district, is traversed, now untilled, and with its farmsteads in ruins. Streams are plentiful, soil fertile. The region is one of great capabilities.

The bullocks of the country are of a fine stamp and numerous, the high grass affording good and gratuitous grazing. Nearing Chi-mu-sa the country is well wooded, and about Ta-chen bushes grow plentifully.

CHI-MU-SA.—8 hours.—63 *li*.—Bar. 27'3".—Temp. 80°. (2,600'.)

(A small walled town.)

The town contains 35 Chinese and 20 Turk families, with a garrison of 300 Chebing.

11TH STAGE.

15th June.—Cloudy and windy.

Leaving the ruined suburb of the town, the broad, hard track traverses an unoccupied country, affording camel-grazing. Camels are fairly numerous. Their encampments must be approached with caution, as they are guarded by savage watch-dogs, who constitute themselves as well the guardians of the high-road if within 300 yards of it. Twice I had to canter for life with two or three of them jumping up and snapping at my legs and horse's nose. The country is flat and open to the northward; low hills rise 2 miles to the southward. Bush is plentiful.

At 12 miles a rich, well-wooded oasis is traversed, in part only reoccupied. Ruins extend along the road. The latter, 40 feet wide, is much cut up by irrigation channels, and contracts to a width of 8 to 10 feet at the bridges, of which there are numbers, composed of fir poles, laid horizontally.

SAN-TAI.—6½ hours.—52 *li*.—Bar. 27'65".—Temp. 70°. (2,270'.)

A village of 300 Chinese and 10 Turk families, with a garrison of 100 Chebing. A cart-road leads to the coal mines. The carts are small and drawn by one bullock. The road, as above, continues through the rich oasis, which extends to the northward some 4 or 5 miles. At 8 miles a steppe is traversed, and the low hills of gravel and clay, lying to the southward, are skirted. The soil is clay. At 13 miles the soil improves, ruined farmsteads and villages become numerous, and gradually a rich, well-wooded oasis is traversed. The road is similar to that through the San-tai oasis. These oases are paradises of birds, trees, and vegetation, and their soil is the richest traversed. They are but partially reoccupied, and much land is capable of reclamation by a more economical distribution of water.

SZEN-I-CHIEN.—8½ hours.—70 *li*.—Bar. 28". (2,000'.)

Village of 130 Chinese, and 4 or 5 Turk families.

Rain fell during the night.

12TH STAGE.

16th June.—Raining.

Leaving the plain, a steppe, covered with tamarisk, is traversed. (*See Sketch of the Tian-shan, No. 49.*) The soil is clay. In places a high coarse grass affords grazing to camels, ponies, and bullocks. Ruined hamlets are numerous. At 20 miles a rich oasis, similar to those already traversed, and 6 to 8 miles wide, is entered. Much rich land is covered with bush and high reeds; the road is lined by ruined farmsteads and villages.

Gu-lun-gay is a small walled village, in part reoccupied.

FU-KHAN.—7½ hours.—70 li.—Bar. 27·95".—Temp. 49°. (2,000'.)

(A small town; the shops deserted.)

The town contains 130 Chinese and 40 Turk families, with a garrison of 500 Chebing, and 250 cavalry, mounted on ponies.

The Turks are taller and of better physique than the Chinese; many have ruddy complexions.

13TH STAGE.

17th June.—The road, taking two lines of cart traffic, but contracting at the bridges, continues through the oasis, which is partly cultivated, well watered, and with a rich clay soil. It extends to the low hills 3 to 4 miles distant to the south, and for 3 to 5 miles to the northward, along the glacis slope to the vast plain seen in that direction. A magnificent pile of snow, and a marked feature in the Tian-shan range, bears 135°. (*Bogdo; see Sketch No. 50.*) At 5 miles a steppe is again traversed, a low range here cutting off the streams from the snows. Wherever these streams flow, rich cultivation and soil mark their course till lost in the desert to the north.

The desert plain fronts the Tian-shan and extends 260° round north, as far as the eye can reach. (*See Sketch No. 51.*) A low weed covers it. At 6 miles the low terminal of the outer range fronting the Tian-shan is rounded. At 16 miles, the plain, penetrating into the broad natural inlet which runs up into the main range, becomes broken; and at 22 miles a grassy and cultivated flat, fronting the snowy range, is traversed. (*See Sketch No. 52.*)

GU-ME-DI.—10¼ hours.—80 li.—Bar. 27·78".—Temp. 93°.

(2,150'.)

(A ruined village.)

The village contains 40 Tungáni and from 20 to 30 Chinese families, with a garrison of 500 Hu-nan braves.

Through cultivation the road ascends a richly cultivated and well-wooded valley, leading up to the grassy and cultivated, undulating plateau, reaching far into the main Tian-shan range. The road takes one line of traffic only. At 8 miles, beyond the mud camp and village of Chi-to-wun (*see Sketch No. 53*) the cart-road bifurcates; the left arm is taken to ascent on to the plateau through narrow ravines, less richly cultivated. At 11 miles the track crosses the rolling downs to the eastward of Umiotza, and descends the glacis slope leading to the city. (*See Sketch No. 54.*) The inns lie in the suburb to the westward of the town. Water is obtained from wells.

46



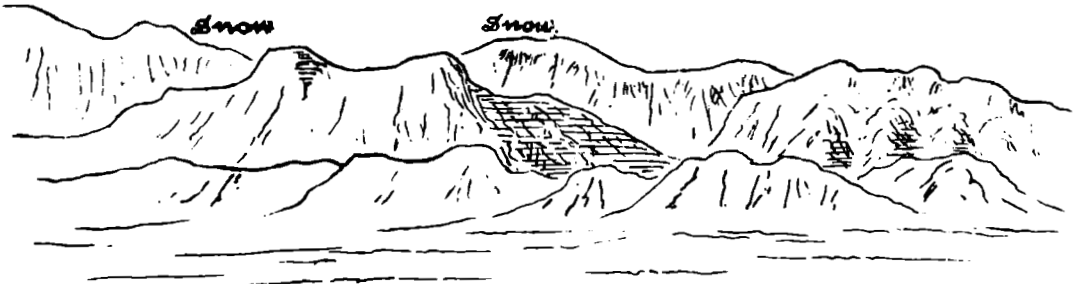
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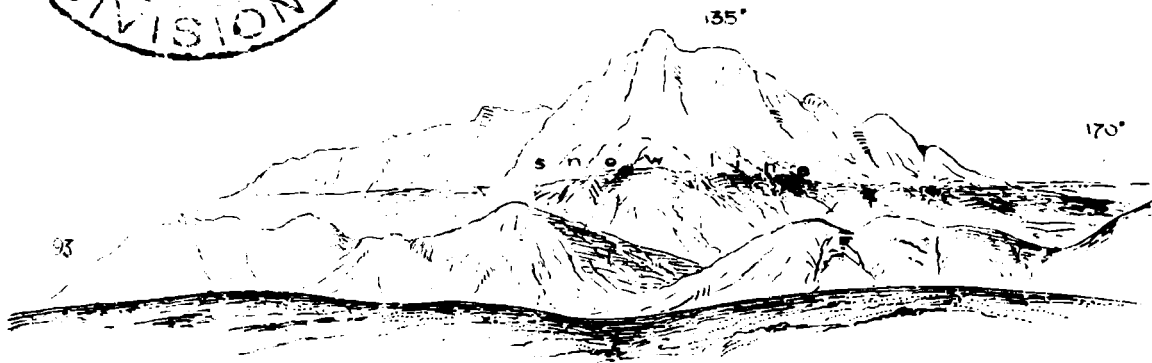


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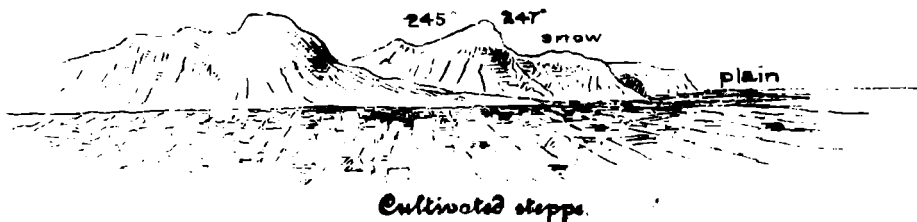


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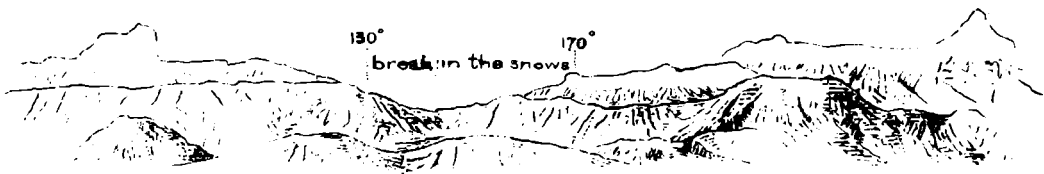
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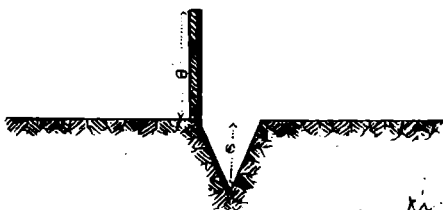
51



52



53



3rd camp. Ch. ti. m. m. m.

UMIOTZA or HUNG-MIOTZA.—4½ hours.—35 li.—Bar. 26·98".

—Temp. 62°. (2,900') ; 1,220 li=408 miles from Hami.

The town has a side of about 1,000 yards and contains a population of 20 Chinese and 1,000 Turk families. Its shops, large and small, number 500; many of them kept by men from Hu-nan and many by Turks and Chinese from Su-chow, Ping-yang, &c. The Chinese chiefly live here without their families; these must number 500 to 1,000.

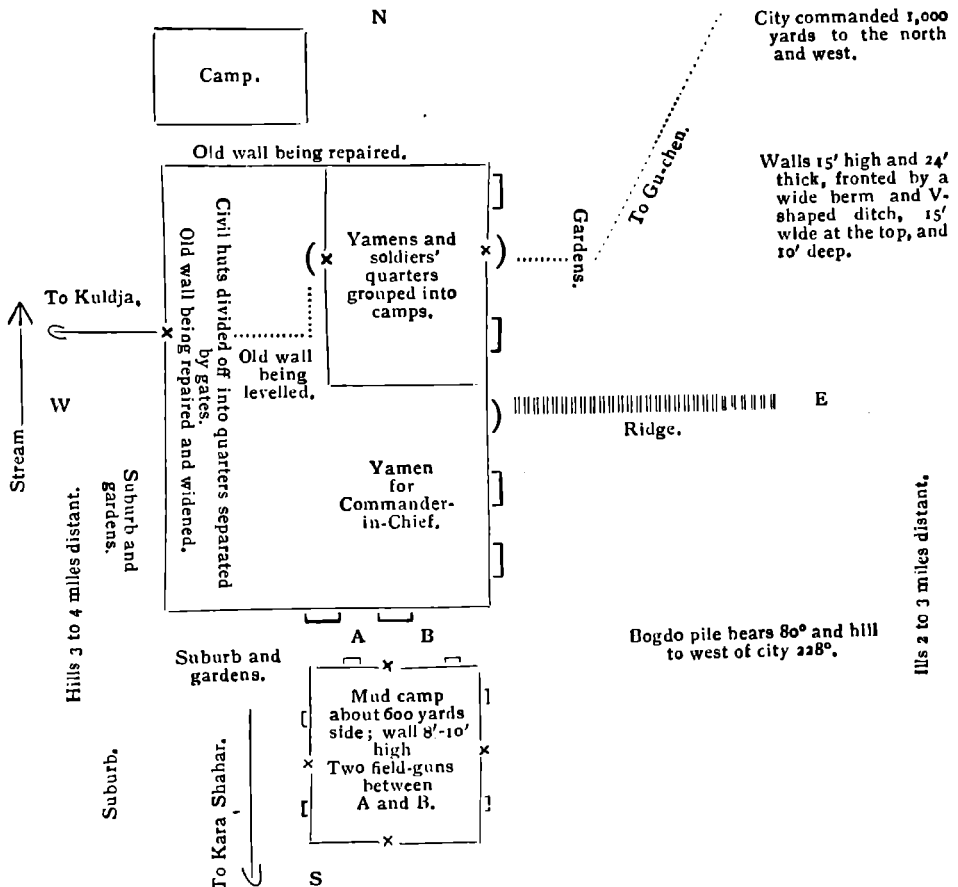
It is the headquarter town of the Sin-kiang, or new province, which embraces Kashgaria, Ili, Zungaria, &c.—*i.e.*, the frontier and foreign possessions of China to the borders of the Russian Empire and Mongolia.

The Governor-General, Lu-ko-sai, lives here, together with two Miah-tai, four Tao-tai, and three Tu-tung Mandarins.

There are said to be 20,000¹ Hunan soldiers in the town and vicinity. About 1,000 were seen engaged in widening the walls of the town. In the barracks and forts there were few. The total garrison probably did not exceed 2,000 men.

The town is being remodelled, old walls thrown down, new built, and the old, where retained, thickened to a top width of 24 feet.

The plan of the town will be somewhat as below:—



¹ This is the probable number from Hami to Ili.

The city occupies a unique position in an undulating valley, 5 to 7 miles broad, penetrating into the Tian-shan range, and rising to the south of the town to form the watershed. The range here breaks altogether, and the Toksun stream from Ta-bang-cheng flows south through the foot hills which serve to mark the range.

A broad river bed bounds the downs to the westward.

The wall is of mud, 15' high; gates, as usual, of wood, 6" thick, faced with thin iron. In the citadel, which has double gates, 50' deep, of burnt brick, are spacious yamens: it is apparently being fitted up as a huge barrack. Low huts are being built in groups, and these are surrounded by low, mud walls, each enclosure accommodating, no doubt, 500 men, or a regiment. Solid, flanking projections of mud, about 50' by 50', or 30', are being thrown out at intervals of about 200 yards, each to hold three field-guns, for which wooden shutter embrasures are prepared. Much care is taken in the construction of the walls, which are well rammed, the result being a solid mass, showing a perpendicular face. Clay when so treated, throughout north and west China, weathers well and becomes very solid.

The town, however, occupies an indefensible site from a European's point of view: hills command it to the west and north, distant from 1,000 to 1,500 yards. The wooded valleys penetrating into the downs to the north of the town give easy, covered approaches, should the garrison take up a position upon them, so that any line they might occupy could be forced at one point. It is, however good enough to resist any Asiatic foe.

There were said to be powder-works and a gun factory here, but when I went to look for the former I was told that all the powder came from Han-kow; and on searching for the latter, was shown one workman at work in a small room, and told that some time ago two foreigners came, set up a gun factory, and having put everything in order, locked it up and gave the key to the Mandarin; and that it has never been in work. I do not put much faith in the story, although it is just what a Chinaman is likely to do, and would do. He has no idea of the necessity of keeping a non-paying concern going or a war establishment active in times of peace to prepare for war.

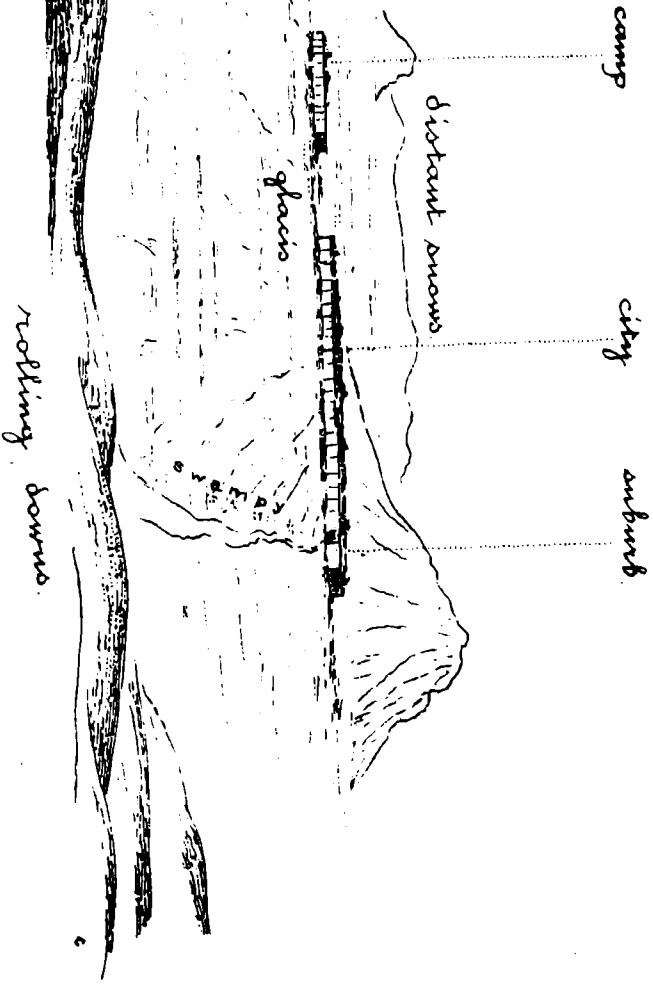
A good road leads outside the city round the walls. The suburbs extend beyond this road on either side of its south-west angle.

The roofs of the houses have a gentle slope; are of mud laid over fir poles, covered with reeds or millet stalks.

Excellent coal and coke (natural) come from the hills to the west. The mineral is found in abundance 10 miles off, and is sold at $1\frac{1}{4}$ to $2\frac{1}{2}$ taels per 1,000 catties. Opium sells at the rate of 17 silver taels for 100 taels weight. Iron costs 8 taels per 100 catties. It comes from Kwei-wha-cheng; none is found here.

Flour costs 2 taels the 100 catties; provisions here are about twice as expensive as at Gu-chen.

The cavalry ponies seen looked like Ili ponies, *i.e.*, not so thick-set as the Mongol pony and a little higher; well suited for light cavalry and mounted infantry, all that they are used for.



L. B. June 1888.
Exd. J. A. A.

Snow is said to lie 3' deep in winter, but not to stop cart traffic. It falls in May at times. Climate severe.

To Ili is reckoned to be 18 stages, or 1,500 *li*, probably 380 to 400 miles. Carts use the road throughout the winter. If snow falls heavily in the hills to be crossed before descending to Ili, soldiers are told off to open it.

Cultivation along it on this side of Khui-khor is fair, and resembles that passed over, part barren, part oasis. Beyond it the country is generally barren. Straw is plentifully obtained at all the road-side inns.

Manass is an extensive fertile oasis, producing grains largely. Urumtsi and Manass were the two most important Tungan towns to the north of the Tian-shan before the rebellion.

Many of the Turks, or Chentús, are fair, tall, straight-figured, and in their long robes and high boots might be taken for Russians: generally, however, they here show the Môngol cross, and are stoutly built, and rather too fat, if anything. The women are generally of fine physiqué but bloated-looking, showing also the Mongol type. The men wear skull-caps or conical hats with a fir rim. The women plait their hair in two or more tails.

The Chinese here think that Russia will take Kashgaria up to the Gobi. The Hu-nan soldiers are undisciplined, and bad customers, paying for little they take. They "spoil the Chentu wives;" the Mandarins, mostly Hu-nan men are bad governors and administrators, not lovers of justice, under a Hu-nan king, *i.e.*, the Lu-ko-sai or Military Governor of the province.

The Chentús here say that the Russians are "good people;" the Chinese "no good." Just now they are content, doing a good shop business; in 20 or 30 years they think the Russians will take the country. (*See page 470.*) The Chinese also say that they will take Mongolia; and France, Sz'chwan and Peking. (The French certainly think it the best of the eighteen provinces of China, and are endeavouring to work up to it by railway through Yunnan.) They consider the introduction of Russian consuls as the first step to annexation. They also say England will take Shanghai, but that the English and Americans are "good people." The French Catholics are looked on as dangerous. The Roman Catholic converts in Sz'chwan number over 100,000. They are staunch to their religion.

For road to Chuguchak, *see page 404.*

From the town of Kuldja viâ the village of Suidun, the mountain passes of Talka, &c., to Ümiotza.

[Explored by Captain Larionoff in 1875.]

	FROM POINT TO POINT.		TOTAL BETWEEN CHIEF PLACES.		FROM POINT TO POINT.		TOTAL BETWEEN CHIEF PLACES.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.			
Kuldja, Town of	...	...	...	...	...	...	...	...	See pages 404, 480. From Kuldja to Suidun is a post-road (<i>vide</i> Route and pages 403, 599).
rom the Altin-Imel station to the town of Kuldja (Kostenko)									
Suidun (village)	40	...	26	4	...	...	...	...	From Suidun the road first runs north on the left side of the Sari-Bulák stream and then descends into a low valley, occupied with continuous fields, kitchen gardens, and gardens belonging to the inhabitants of Suidun (Dungans). At 18 <i>versts</i> (11 miles, 7½ furlongs) from Suidun the road turns north-west and crosses a low ridge of the foreland of the Talka range; then by an even, gently sloping channel it reaches the entrance of the Talka defile. This road can be easily adapted to wheel traffic. ¹
Entrance to the Talka defile.	35	...	23	1½	...	...	...	...
Sairám-nor									From the entrance to the Talka defile to Lake Sairám-nor the route runs by the former so-called Kitai (Chinese) Imperial road from Kuldja (destroyed) to Peking. It is perhaps even now fit for wheels, with some repairs made here and there. On this route 18 wooden bridges were constructed by the Chinese in the defile, out of which not a single one is now fit for a vehicle to pass over. The defile is abundantly overgrown with wood (fir, birch, poplar, apple, willow, white thorn, mountain ash, &c.), furnishing material for the repair of the bridges ready to hand. The ruins of the Chinese stations still remain along the route. The ascent to the pass commences at 4 <i>versts</i> from the lake, and is not difficult.
Southern shore of Lake Sairám-nor.	25	...	16	4½	...	...	...	...
Khustai	28	...	18	4½	...	...	...	...	Steppe, plain.

¹ This road is shorter than that which runs by the villages of Chin-Cha-Khoja and Lantsugun by 6 *versts* (3 miles, 7½ furlongs), but the latter is quite fit for wheels up to the entrance to the Talka defile.

² From the Ili valley to the basin of the Sairám-nor lake, besides the Talka road, there are also two others which run along affluents of the Aksu and through the Ulatai and Aksu passes. These routes unite with that by Talka on the west shore of Lake Sairám-nor. They are only fit for pack-animals and even then not at all seasons of the year.

From the town of Kuldja viâ the village of Suidun, &c.—concl'd.

	FROM POINT TO POINT.	TOTAL BETWEEN CHIEF PLACES.	FROM POINT TO POINT.		TOTAL BETWEEN CHIEF PLACES.		REMARKS.
	Versts.	Versts.	Miles.	Fur.	Miles.	Fur.	
Takumtu	30	...	19	7	Even, sterile steppe; sands in places; very little water.
Takiánza (village) . . .	14	...	9	2½	...	...
Jinkho "	47	...	31	1½	...	...
Kum-tám	39	...	25	7	...	...
Totokhoi (picket) . . .	15	...	9	7½	...	...
Kurtu-kunga "	10	...	6	5	...	...
Dombada	19	...	12	4½	...	...
Bulkhazi (Purtaji) . . .	25	...	16	4½	...	...
Ruins of the town of Karkara-usu.	22	...	14	4½	...	...
Kuitun (station)	22	...	14	4¾	...	...		Character of road the same. At Kuitun the road from Chuguchak runs in from the north.
Antzi-Khaya (station) . . .	20	...	13	2	Over steppe; good grass.
Khorgos	25	...	16	4½	Even steppe.
Ulan-Usu	20	...	13	2	As above.
Manás or Kangi (village).	40	...	26	4½	As above; passage of the River Manás.
Yán-Balgasun (station).	21	...	13	7½	Even steppe. Up to Loklon good grass.
Tugurik (station)	26	...	17	2	...	...
Khutuk-bai "	38	...	25	1½	...	...
Loklon "	33	...	21	7	...	...
Gun-nin "	40	...	26	4	Through a slightly undulating, inhabited locality.
Urumchi, Town of	22	...	14	4¾	6¾	6¾	Over a slightly undulating and well-populated locality.

See page 480 et seq.

From Urumchi to Hámi one may travel by two routes,—*vis.*, by Turfan, the shorter road; and by Barkal—the better.

FROM URUMTSI TO KULDJA THROUGH MANASS (alternative stages).

Names of Places.	DISTANCES IN LI		Nature of Road, River, &c.	Remarks.
	Inter-mediate.	Total.		
Chen-tsi-sian	100	...	40 li along road is village of Di-vo-poo	Town called formerly Lo-ke-lun.
Dow-lu-tsao-gow	70	170	Half-way is village Siow-lu-tsao-gow .	Village.
Tu-lu-li-ke (Tu-hulu).	80	250	After 20 li pass Fort Hu-tu-bi. Between Tu-hulu and Manass. Cross large river.	Village.
Manass	90	340	Three miles from Manass cross a deep river. Only fordable in early morning, when water is low.	In Chinese Sui-lai-sian. Town never fell into hands of Yakub Khan. Before insurrection enjoyed great wealth.
Po-chen-tsi	40	380	. . . . .	Village.
U-lan-usu	40	420	. . . . .	Village.
An-tsi-hoi	100	520	. . . . .	A large village. Half-way three small streams have to be crossed.
Kui-dun	70	590	Near Kui-dun, 10 branches of the same river have to be crossed; difficult.	Village.
Hur-hara-usu	60	650	. . . . .	From this point leads a branch of the Chuguchak road.
Burkatsi	70	720	. . . . .	Village.
Si-ke-shu	40	760	. . . . .	Village.

Dun-mu-da	40	800	.	.	.	.	Village.
Kur-tu	60	860	Cross large river ; difficult	.	.	.	Village.
To-da-ke	50	910	Road from this point sandy, which continues to next station.	.	.	.	Village.
Sha-tsuau (sandy spring).	80	990	Road sandy, and becomes more difficult after leaving Sha-tsuau.	.	.	.	Village.
Tsin-ho	60	1050	.	.	.	.	Village.
To-li (Pai-fan).	60	1110	Fatiguing sandy march	.	.	.	Village.
Da-ho-yan	50	1160	.	.	.	.	Village of Torgoutes.
U-tai	30	1190	.	.	.	.	Village.
Si-tai	80	1270	.	.	.	.	Village.
San-tai	80	1350	.	.	.	.	Village, surrounded with mountains.
Er-tai	60	1410	.	.	.	.	At 40 li from night-halt, near Da-ban, commences properly the pass over the Tian-shan. The tops of the mountains bristle with thick forests, at the foot run mountain streams. The pass is paved. At the summit of the pass is a wayside inn (T'ar-tsi-gow).
Tau-tai	50	1460	.	.	.	.	Village.
Sui-den-chen	80	1540	.	.	.	.	Town. Was considered the advanced bulwark of the Empire.
Hai-yuan-chen (li).	30	1570 li, or 465 miles.	N.B.—1 li probably equals 0.8 li of 3 to the mile.—M. S. B.	.	.	.	At 50 li is the station of Siao-lu-tsa-gow.

URUMTSI (*from a Chinese source*).

Urumchi, or Urumtsi, the Bish-balik of the Middle Ages, has played an important part of history. Its advantageous position at the northern foot of a chain of the eastern Tian-shan, dividing Zungaria from eastern Turkistán, always enabled it to recover rapidly from the wars which destroyed its less fortunate neighbours. Its district is fertile, and its water and pasturage abundant. The first mention of Urumchi dates from the period of the establishment of the Chinese Empire in the extreme north-west during the Tang dynasty (A. D. 646). Its district, with that of the neighbouring Barkul, became dependent on the government of the province of Kansuh.

When the Uigurs forsook their homes on the banks of the Orkhon, the Tola, and the Selenga, they settled here; the ruins still remaining in the vicinity of the town probably dating from that period. After the Mongols were driven out of China, Urumchi and the adjoining district fell into the power of the Eleuths; but about the middle of the last century it was conquered by the Manchus and became the military centre of a district, extending from Barkul to Hur-kara-ussu. In 1775 Kien-lung raised it to the rank of a city of the second order, and gave it the Chinese name of Ti-hwa-chau. But it was best known under its ancient name of Bish-balik, *i.e.*, "the five cities," when it flourished under the sway of the powerful Khans of the Mongol dynasty.

The district of Urumchi extends westward along the valley, watered by the streams flowing from the Tian-shan mountains and afterwards discharging into a great marsh, whence there is no outflow. This is called Ueh-i-hu or Ueh-i-tan, *i.e.*, "the reed marsh." It is overgrown with reeds, and is several hundred *li* in extent from east to west, forming a barrier to the north of the district.

The population of Urumchi consisted before the rebellion of Chinese settlers, who had lived here for so many generations that they were regarded as its original inhabitants. When the Manchus conquered Zungaria, they were desirous of consolidating their empire in this remote country, and accordingly drew up a broad scheme of colonization, in accordance with which they planted military colonies of their own dynastic subjects (Manchus, Sibos, Dahurs, Solons, Chakhars, and Eleuths), with their wives and families, and a few native Chinese; further, they encouraged voluntary emigration from China, supplying the colonists with money, provisions, and agricultural implements, and granting them arable land. In other ways, too, they endeavoured to increase the settled population in the nomadic districts.¹

Wheat and oats are chiefly cultivated at a place called Gan-tai; rice is also grown. Wheat, oats, rice, poppy, tobacco, assafœtida, and madder are cultivated. Gold is found south of Mara; iron ore occurs near Urumtsi (*see pages 362, 392*); saltpetre is found near Yanbalgasun; talc is plentiful; salt is obtained from the lakes, and coal is abundant.

¹ About this time a colony of settlers from the towns of Turkistán, called by the Eleuths, Tarinchi (Taranchi), or colonists, was established near Ili. (*See page 376.*)

Urumchi, like Hami, is a great entrepôt for trade, as well as for the transport and storage of merchandise. It has communications with China (*viâ* Hami), Turfan, Ili, and Tarbagatai, besides a direct road across the desert to Kuku-khoto, frequented by merchants. The merchants lived in the suburbs of the old town, in separate communities. Thus, there were communities of Suh-chau, Lan-chau, and Kuku-khoto merchants; the latter, known at Urumtsi as guests from the trans-Ordos country (Peh-tan-keh), were the richest; they were natives of the province of Shansi, and by their superior enterprise had monopolised most of the Central Asian trade. (*See page 76.*) There was also a community of Mongol merchants, and Turkistán traders come from Turfan. The local consumption of tobacco and brandy was enormous.

At Umiotza the Ili route was left, and the Tian-shan recrossed to gain Toksun, on the southern road from Hami *viâ* Turfan and Aksu to Kashgar.

Between Umiotza and Ili there are no passes over the Tian-shan to Aksu, and the southern road, fit for carts. The only pack-animal passes leading through Chinese territory are the Mustag and Yulduz routes. (*See pages 396, 406 et seq., 479 et seq., 486 et seq.*)

The former, or neither, should have any military value if their defence is understood.

The donkey transport of the country is of an exceedingly good stamp; a laden donkey averages a rate of 3 miles an hour; it is plentiful.

ZUNGARIA.

Before quitting the country lying to the northward of the Tian-shan range, an account of this region and of the progress and cause of the rebellion there in 1863 is given, compiled chiefly from a memorandum by R. Michell. (*See page 298.*)

[*N.B.*—The narrative of the journey is continued on page 384.]

In Chinese Central Asia settled Chinese as agriculturists are met with in outer Kansuh, in the oases along the northern slopes of the Tian-shan, and in the Ili valley. A few are found in western Zungaria about Chuguchak and Bulun-tokhoi, in north-west Mongolia about Ulyassutai, about Urga, and in south-east Mongolia.

They are met with as officials and traders south of the Tian-shan, but not as agriculturists; officials are met with in the large Mongolian towns, such as Urga, Ulyassutai, Kobdo, Kalgan, Kwei-wha-cheng, and Si-ning. The population of Mongolia is estimated at 4 millions; Tibet at 2 millions; Chinese Turkistán at 2 millions; together with one million in the oases of the eastern Tian-shan, and the northern foot of the Nan-shan; Zungaria at 500,000.

Eastern Turkistán is a geographical distinction of comparatively modern origin, dictated by the great physical barrier which, in the shape of the Pamir upland, nature has placed longitudinally between east and west in Central Asia. Ethnographically this physical line of limitation *marks no distinction* between the race of people on either

side. One homogeneous family of Turks fills the whole of the zone to the borders of western China. In the eastern division of Central Asia there may, indeed, be a perceptible difference in the national character of the Turks, but this comes from an interspersing of some heterogeneous elements among the dominant population. Chinese rule, manners, and customs have, during the course of more than a century, caused some alteration in the character of the people; Buddhists in the south, and a variety of Tartar tribes in the north (a people who, in every respect a distinct branch of that "indefinite entity the genus Tartar" in Turkistán, were once a powerful nation, and the possessors of this country), have doubtless had some considerable effect in re-idiomatizing the language of the Turks, in modifying their habits, and perhaps also in toning down to some extent their faith and religious observances. But the Muhammadan faith, whether it came into eastern Turkistán with the Turks, or whether it was grafted on them subsequently to their spread over eastern Asia, has, nevertheless, a vitality there which is as irrepressible as elsewhere.

That is not, nor has it ever been, the case in Zungaria, where the population is made up of a medley of Turk Musulmans, various

Rebellion in Zungaria, Tartar tribes, and a large Chinese ingredient. caused by oppression.

The inhabitants of this region, making common cause with the rebellious Muhammadan subjects of China, did indeed range under the same Muhammadan banner of revolt; but their main-spring of action was not the same as that of their allies. What chiefly stirred them to join the insurrection of the Tungans was the oppression they suffered at the hands of their masters, and the sense of their degraded position in the category of classes. Religious fervour influenced them in a minor degree. After having, by a union with the successful rebels of the south-east, exterminated their late lords and effected their own liberation, the people of Zungaria finally separated themselves from their Muhammadan allies and formed a body politic, distinct and estranged from, and completely independent of, Tungans and Kashgarians. They, as it were, isolated themselves from the surrounding world. This desire which they showed to keep aloof sprang from an anxiety to retain what they had gained, and had its birth in a feeling akin to that which overcomes the slave when he has escaped from bondage, and fears recapture even more than he values his life. They possessed lands which had been greatly improved under Chinese cultivation, and commanded sources of natural wealth which the Chinese had developed to a remarkable degree; these they guarded for their own benefit with all the more jealousy, because they were sensible of the aptness and capability of the people, of superior strength and intelligence, to impose upon them and subject them again to servility.

Zungaria is naturally divided into four districts, of which one is Ili. The Chinese had there their principal seat of military control over Zungaria and Kashgaria, two separate dependencies. Under Yakub Beg Kashgaria became known as Djety (Yeddi) Shahar (seven cities).

The term "Zungaria," unknown to the Chinese, derives from the Zungars, a branch of the Kalmuks, or western Mongolians,

who suddenly acquired great power early in the eighteenth century. Their empire stretched east and west from Hami to Lake Balkhash, and they were strong enough to invade Tibet and sack its capital in the year 1717. But, after a chequered history of some sixty years, they fell as rapidly as they had risen. Their overthrow by the Chinese in 1757 was attended by the most frightful massacres, in which the whole nation perished, leaving behind it nothing but the name which western writers still continue to apply to the region at one time forming the centre of their power. (*See pages 442, 446 et seq., 528.*)

Zungaria, which is administratively connected with, but physically separated from, Kulja (upper Ili valley), occupies the whole region between the central Tian-shan and the western Altai. It has no natural frontier towards Mongolia, with which it everywhere merges imperceptibly, and which it resembles in its main physical features. Towards the west it is not bounded, so much as intersected, by the Ektag-Altai, the Tarbagatai, and the Ala-tau, which, with their eastern extensions, run rather east and west than north and south. Thanks to this disposition of the ranges between the Altai and Tian-shan, the central Asiatic table-land, elsewhere enclosed by continuous and mostly impassable mountain barriers, here opens through no less than three distinct depressions down to the Aral-Caspian basin. Between the Ektag-altai and the Tarbagatai lies the upper or Black Irtish valley, continued right into Mongolia by the Urunga river, and nowhere rising more than 2,500 feet above sea-level (*Sosnoffsky*). But far deeper is the southern depression between the Tarbagatai and the Ala-tau, which is itself divided into two sections by the intermediate Barluk-Orkochuk ridge, also running east and west. Between this ridge and the Saura, or eastern extension of the Tarbagatai, runs the second approach, which passes by the town of Chuguchak, and which, although less open, is more frequented than the others. Lastly, the third and southernmost passage is clearly marked by the Ayarnor, Ebi-nor, and the undecided steppe rivers, all formerly presenting a continuous waterway, communicating eastwards with the central Asiatic Mediterranean (Gobi), and connected westwards through Lakes Ala, Sassik, and others, with Lake Balkhash,—that is, with the Aral-Caspian basin. (*See pages 332, 593, 625.*)

The physical complexity is reflected in the ethnical confusion, especially of the Ili valley, which has been the common battle-ground of rival races and conflicting creeds for ages. Kulja, as the upper Ili valley is now called, is naturally by far the richest land in the Empire beyond the limits of China proper, and has at times supported vast populations dwelling in numerous large cities and thriving towns, scattered over its fertile and highly-cultivated plains. But the frequent revolts, first of Zungars, then of Dungan and Taranchi Muhammadans, in which momentary success on either side was invariably followed by wholesale extermination, have in recent times converted these magnificent lands into a howling wilderness. The victims of the successive Zungarian and Dungan insurrections, extending ever more than a century, must be reckoned literally by

Natural inlets from Russian Turkistan into Chinese Turkistan.

millions, and the scene of desolation now presented by the ruined cities and wasted plains of unhappy Kuldja baffles all description.

Kuldja, which was temporarily occupied by Russia from 1871 to 1880, forms a triangular space, some 26,000 square miles in extent, wedged into the very heart of the central Tian-shan, and opening down the Ili valley towards Semirechinsk and lake Balkhash. Its population had been reduced from over 1,000,000 to little more than 100,000 in 1880, and in the whole of Zungaria, with an area, including Kuldja, of 146,000 square miles, there are less than 500,000 inhabitants. (*See Preface page xxxvi, and pages 376, 528, 600.*)

From Zungaria, Mongolia proper stretches south of the Altai highlands, eastwards to the Khingan range, and almost to the gates of Peking.

What is known as Zungaria is composed of the three districts of Ili, Kur-kara-usa, and Tarbagatai. Some portion of it has been absorbed by the Russians, by whose territories Zungaria is bounded along the whole of its north-western side. This line runs from the lake of Nor-Zaisan, or, rather, from a point some way up the Black Irtysh, to the Tarbagatai mountains; following these, towards the west, it proceeds across an open country—striking the Emil river at about mid-course—to the Alatau mountains, and, skirting the latter, it runs on to the Russian outpost of Borokhudzir; from here it is drawn across the open valley of the River Ili to the mountain knot at the eastern extremity of Issyk-kul. At this point the green line on the maps is drawn along a ridge of hills extending in a north-easterly direction, terminating in an elevation to the south of Kuldja, from which, passing the Sumbé mountain and intersecting the valley of the Tekés, the Russo-Zungarian frontier terminates at Tengri Khan in the Tian-shan mountains. (*See pages 543, 561.*)

In the north-east, Zungaria is bounded by the Black Irtysh and Mongolia; in the east and south-east, by Urumtsi and Barkul in the Chinese province of Hansu; and in the south, by the Tian-shan range.

The Ili district occupies the wide and well-irrigated valley of the river of that name, surrounded on three sides by mountains.

The Tarbagatai district is mountainous, but possesses a steppe flora; it embraces the basin of the Black Irtysh river.

The Kur-kara-usu district is filled with a system of lakes extending towards the east, and forming a marshy zone. The two principal lakes here are Eshik-nor and Sairam. Kur-kara-usa lies between Ili and Tarbagatai.

Russian travels in this direction had not extended beyond Kuldja and Chuguchak before the rebellion. It is only now beginning to be thoroughly explored, and there are now indications that an empire less exclusive than China, taking within its wide scope of vision more objects than one, will, step by step, assert its sway over the whole of this country, open it up, and impart, by degrees, to Europe that information which cultivated society mainly desires.

On the expulsion of the Chinese soldiery, Zungaria became

a thorn in the side of Russia. Incessant disturbances on the borders caused great trouble to the Russian local authorities, and perpetual agitation and alarm amongst the population on the Russian side. The states formed by the rebels of Zungaria were not calculated to be long-lived, nor were they so organised as to ensure against endless inroads into Russian territories. They contained all the elements of ever-varying internal dissensions, while their attitude was expressive of a consciousness that they might become an easy prey to an energetic and encroaching power. (*See page 562.*)

The Russian Semirechensk district—from Semipalatinsk, the Bal-khash, and Issykkul—was all part of Zungaria in former times, or, rather, composed the Ili region, of which only a small portion was preserved by the Chinese. Since 1844 it has been gradually, and without opposition, absorbed by the Russians. The Chinese authorities and garrisons being pre-occupied in the preservation of tranquillity in the more populous localities, and loth to issue from their citadels, were, it seems, supremely indifferent to Russian encroachments over an extent of surplus country they were unable to protect. Thus the Chinese, adhering to their peaceful policy, took no notice of the occupation of these waters by the Russian *kazaks*, who came gradually to monopolise the fisheries on the waters, till on one side a line of pickets was advanced up the Irtysh to the Narym mountains, while another line was thrown out from Ust Kamenogorsk to Kokpektinsk, with a third line projecting from Semipalatinsk to Kopal, and thence to Vernoë. More recently, a chain of posts was established from Sergiopol to Urdjar, along the Tarbagatai mountains on the road to Chuguchak, and another from the main line near Kopal to Lepsinsk at the foot of the Alatau. Nor-zaisan, and a considerable portion of its feeders, are now included within the Russian limits, as well as the whole of the basin of Lake Ala-kul, and most of the course of its chief affluent, the Emil river.

Mr. Wells Williams observes that Zungaria extends about 900 miles in length, the width being on an average 300, and that the area is a little more than a third of 900,000 square miles, which he gives as the extent of all eastern Turkistán, with Zungaria.

Zungaria may be said to lie between 79° and 89° west longitude, and between 42° 30' and 48° north latitude.

Except in the main directions, roads through Zungaria are available for pack-animals only. From Kuldja and Chuguchak the roads converge at Kur-kara-usu, whence the Tian-shan Peh-lu, or northern line of road, proceeds to the Chinese province of Kansuh.

The distances along these roads are as follows:—*Compare with pages 356 et seq. ; 364 et seq. ; &c.*

	Miles.
Chuguchak Road.	
{ From Semipalatinsk to frontier	365
{ " frontier to Chuguchak	4
{ " Chuguchak to Kur-kara-usu	271
	640
	640

		Miles.
<i>Kuldja</i> <i>Road.</i>	From Vernoe to frontier	135
	" frontier to Kuldja	67
	" Kuldja to Kur-kara-usu	235
		437
		437
<i>China</i> <i>Road.</i>	From Kur-kara-usu to Urumtsi	184
	" Urumtsi to Barkul	267
	" Barkul to Hami	107
	" Hami to the Huan barrier	393
		951
		951

The River Ili affords water communication to Kuldja, but there is yet no navigation upon it. (*See page 609.*)

The Governor of the Semirechensk district is about to introduce steamers on that river, and he is doing what he can to open a navigation up the Irtysh.

Agriculture and Natural Products.

Agriculture is the chief occupation of the people. The lands were apportioned by the Chinese Government among military colonists, but they were not transferable as private property. They were cultivated by the soldiery, by criminals banished from China, and by immigrants, as well as by nomads. But the most numerous class employed in tilling the soil were the Taranchis, a people transplanted from Altysnar, who have since avenged on their Chinese masters the hardships they were made to suffer in the condition of slavery to which they were reduced.

The system of military colonisation introduced by the Chinese, for the purpose of procuring cheap supplies for their local forces, has led in Zungaria to an increase of agriculture.

The products of Zungaria are principally cereals,—wheat and millet. The seeds for the first crops raised in that country were brought from Russia. Rice was first grown two or three scores of years back.

The vegetables and fruits are the same as those grown in northern China. Indian wheat, "sorgho," melons, water-melons, grapes, pears, peaches, apricots, plums, and even pomegranates, are the products of the gardens.

Occupation and Industries.

Cattle-breeding is very common; pigs and fowls are domesticated.

Mining.—There are gold-washings in the Tarbagatai mountains, and in the bed of the Ters-Aryk rivulet. Gold is known to exist also in the southern slopes of the Altai mountains, but the Chinese Government has not allowed it to be worked there. Silver obtains in the Kashotagh range. Copper is found in small quantities (according to Father Hyacinth only about 3 to 4 tons), and is mined. The lead found is used exclusively for bullets. We can find no mention of iron, except in a note to Timkouski's account of a journey to

Peking, where it is said that, on the road between Kuldja and Aksu, there are four manufactories of copper and iron.¹

The whole of this region is of a carboniferous formation, but coal mines are worked in only a few localities. The coal mine in the Tarbagatai mountains is the only one which is positively known to exist. The manufactures of Zungaria are mean, and of no importance. Nearly all the necessary articles of use in the country are brought from China and Russia. (*See page 339.*)

Trade.

With Siberia and eastern Turkistán the people of Zungaria conducted a brisk trade up to the middle of the eighteenth century; their relations were then interrupted and restricted by the Chinese authorities. Very little or no advantage was derived by Russia from the Kuldja treaty of 1851, for in 1854 the factory in Chuguchak was burnt down by the populace, and the Russian consul, who had subsequently resided in Onek, was forced to fly from the place. The consul in Kuldja had to withdraw on account of the rebellious Tungans.

Owing to the rupture of communication with China through Zungaria, attempts have recently been made to establish a tea trade by way of Kobdo through western Siberia, but as yet without even a promise of success. In endeavouring to open up a commercial route in this direction, the Russians counted much on the co-operation and good-will of the Chinese, who had made strong professions of gratitude to the Russian Government for harbouring all the fugitive subjects of China who had escaped the massacres in Zungaria.

But even on the Sungari in Manchuria the Chinese officials positively forbade any traffic to Russian traders and dealers in grain. (For present trade relations *see page 322*) Through the navigation of the Ili and Irtysh rivers, and a gradual advance of outposts, Russia may ultimately succeed in absorbing all Zungaria, when she will obtain command of the roads leading thence into China. In such case a monopoly of Kashgar markets will scarce be worth struggling for. Looking some way into the future, it is not improbable that the importation of British goods into Kashgaria will become a matter of compromise between the English and Russian Governments. To us the road to China through Tibet and Kashmir presents sufficient inducements to engage all our enterprise, and it offers an ample reward. (*See pages 542 et seq.*)

In the long run it may be conjectured that our labours in Kashgaria would be lost. All but scientific explorers from British India would ultimately have to abandon the field. The competition finally will be in China.

In the great overland tea race about to be run by England and Russia, the grand prize is hers who first reaches the goal. The Tibetan road, lying parallel with the Tian-shan road, leads to the main point to which England and Russia are both inclining. (*See*

¹ I heard of plenty of copper. Iron is worked at Kuchar. A mine is said to be worked near Maral-báshi. (*See pages 392, 421, 523.*)—(*M. S. B.*)

pages 308 *et seq.*) Perhaps even ancient trade routes might be reopened. (*See pages 285, 332.*)

Population.

The population of Zungaria has been estimated by Wells Williams at about 2,000,000. (*See page 372.*)

During the independence of Zungaria, its population was composed of Eleuths, or Mongol Kalmuks, with an admixture of Kirghiz and of some tribes of Buruts inhabiting the south, and of Uliangai tribes inhabiting the country of the Altai mountains. (*See pages 233, 346 et seq.*)

After its final conquest by the Chinese in 1756, the latter exterminated nearly the whole of the people, in punishment for the treachery of Amursana; they then massacred upwards of one million, a great number perishing at the same time of hunger and disease. (*See pages 448, 598.*)

The region was subsequently colonised by the invaders, who, true to their national habits, applied themselves to agriculture and various industries. The district of Ili was settled by Manchus of the Solan and Dakhur tribes; these composed the military element. At the same time an immense body of the people, subsequently called Taran-chis, was imported from Altysnar. Sarts, occupied with trade and agriculture, settled in the towns and villages, or as retail traders dwelt in the *ulusses* of the wandering tribes.

The nomad population of Zungaria are Turguts (Kalmuks) of the Mongol race, who immigrated from Siberia in 1772. (*See pages 314, 625.*)¹ These are divided into four branches, one roaming in eastern Turkistán by the Kaidu river in Karashar, and the rest distributed over Zungaria as follows: the northern division is located in Khobak and Sarin, east of Chuguchak; the eastern division inhabits the country between An-how-tzien and Balgazi; and the western division is spread over the country stretching from the south of An-how-tzien to Bora-Burgasu. The last-named division is said to number 40,000 individuals, supplying 3,900 horsemen. The southern division is the most numerous, mustering 8,100 horsemen.

The Hoshoints are another Mongol tribe of nomads, most of whom also passed over from Siberia, some of them having returned to Zungaria from Koko-nor; they roam along the great Yulduz river, and number about 18,000 individuals, producing in the field 1,800 horsemen. The settled population of Kuldja is 50,000, of Chuguchak 5,000. (*See page 438.*)

Zungaria, as observed, was swept of nearly the whole of its population by the Chinese towards the end of the eighteenth century, and settled as described. This military colonization system evidently begot, in the end, a tyranny insufferable to the increasing multitude of labourers, who, allied by blood and religion to the Muhammadans of eastern Turkistán, and exasperated by the severe treatment and heavy exactions of their masters, were at last inflamed by the successes of the Tun-

Political organization,

gans in eastern Turkistán, and rose *en masse* to exterminate the Chinese and to free themselves.¹

The three districts of Dzungaria were respectively governed by an "Amban," or Chinese Military Governor, while the chief military authority was vested in the Chinese Tsiang-kiung, or Commander-in-Chief, resident in Kuldja (Ili). The latter had also the control over the Chinese forces in Urumtsi and Barkul, which two districts were, in administrative respects, attached to the province of Hansu.

The military classes were ranged under the Manchu division of banners. The nomad tribes had a separate form of government, similar to that of the Mongols, but they were equally under the control of the local "Ambans," and under that of the superior officer in Kuldja. They were divided into *chulkans*, or families of Targuts, Durbats, and Hoshoits, and these again were ranged under thirty different standards.

The Chinese inhabitants of the towns came under the application of the Chinese Civil Code; the Muhammadans were judged according to the *Shariat*, and the nomads were subject to the regulations framed by the Chinese Department of Foreign Relations.

The military organization was the same as that of Mongolia, and Chinese military forces in Zungaria. the Zungarian troops were included in the grand total of the Mongol army. Zungaria, in the reign of Kien-lung, was conquered and occupied by an army of 70,000; of these there remained only from 3,000 to 5,000 Chinese soldiers before the rebellion.

The shops, or booths, which were divided into three classes, were made to pay 1, 2, and 3 *chins* respectively for each measure of space filled by articles for sale. Taxes and imposts. Thirty per cent. was appropriated by the Government on every bargain concluded. Kitchen and fruit gardens were charged 1 chin per *mu* (Chinese acre) per mensem.

The Taranchis, while under obligation to till the land for the military holders, were compelled annually to deliver up 18 *dans* (2,670½ English) of grain each from his own plot; criminals occupied in agriculture, 9 *dans* each.

Introduction of Muhammadanism into North-West China. (See pages 298 *et seq.*, 306, 453, 604.)

When Islamism was first introduced into eastern Turkistán, and began to make progress in that dependency of China, the Government, apprehensive of the consequences, adopted several measures to enfeeble the converts to that faith, and among these was the very

¹ In 1829 the rising of the Khwájas in Kashgaria suggested to the Chinese the propriety of adopting the customary measure for providing against any further insubordination by deporting a large body of Kashgarians to the neighbourhood of Kuldja. From 8,000 to 12,000 people are said to have been thus removed after the expulsion of the Khwájas. These people were put upon the soil, and were made to perform, under surveillance, servile duties for the Chinese military colonists. Being made slaves, and groaning under their many burdens, they obtained the name of Taranchis, or "People of the bloody sweat."

strong measure of deporting entire populations from Turkistán and settling them in China proper.¹ (*See pages 312, 437 et seq.*)

The province to which these Uigurs were removed was Kansuh.

In the sixth century the Uigurs were a strong people with capital at Kashgar. They were conquered by the Chinese during the seventh and eighth centuries.

By the Chinese these people, we find, were called Han-hoi-tsi, or Chinese Turks, in contradistinction to the rest of their Turk tributary subjects or neighbours, whom they called Hoi-hoi-tsi, or Turks of Turkistán.

From Kansuh these Uigurs gradually spread over the remaining provinces of China, where they came to be distinguished as Tun-han-su,—that is, “the same as those of Kansuh,” whence, very likely, the corruption into Tungan, made by the Uigurs themselves, since to them it had a signification.

We may, I think, take it for granted that the Tungans were Muhammadans when they first removed to China, and that the theory of the derivation of their name from Alexander’s “remnants” is but based on an idea of the Sarts of Central Asia, from whom it was borrowed, and who ascribe to Alexander the Great all that was done before him and long after he had passed away. (*See pages 453, 604.*)

²A residence of a thousand years must necessarily have effaced in the Tungans nearly all the distinguishing marks of Ouigur nationality. Not being confined to the province of Kansuh, they gradually spread over all China, adopted Chinese habits and customs, assimilated themselves in dress and in speech to the native inhabitants of the provinces of China proper, and at last acquired all the rights and privileges of Chinese subjects. Nor was their naturalisation brought about by accident alone. Their denationalisation was, indeed, favoured by the circumstance of their early deportation (soon after their adoption of the Muhammadan faith), and it was, moreover, superinduced by the imposing barriers which, in the shape of a wilderness on one side and an extensive tract peopled by Mongols and Kalmuks on the other, lay between them and the cradle of their birth. But the Chinese Government availed itself of every circumstance and studied every art to destroy the identity of the Uigurs. Thus, the number of men among the latter being out of proportion to that of women, the Chinese Government encouraged mixed marriages of

¹ According to Chinese history, there were two deportations—in one case of upwards of 800,000 families, and in another of more than 200,000 (ninth century). Doubtless voluntary immigrants into China followed afterwards, of which history contains no record. These people were first settled in the provinces of Shensi and Kansuh, whence in subsequent times they gradually spread all over China, but principally over the northern provinces, along the Great Wall, and over those of the west, such as Sz’chwan, Yunnan, and Kweichau. Salar, in the Ho-chow district of the province of Shensi (*see page 196*), being the place of residence of the religious head of the Tungans, was always the rallying point of these people, and the Tungan community within it, known in the days of Chenghis Khan, was at the head of all their movements against the Chinese Government. During the present reigning Manchu dynasty, the Tungans have frequently revolted, but they have been invariably subdued.

² This is but a theory, and not borne out by the type of the Tungan, who is a veritable Chinaman, with all his hateful peculiarities of curiosity, egotism, &c., quite different from any other inhabitant of Turkistán. They are very particular to intermarry amongst themselves only. (*See pages 198, 306, 307.*) They have nothing of the Turk about them.—*M. S. B.*

Tungans with Chinese women. The policy was to carry the influence of the Chinese mind into every Tungan household; to sow amongst the new comers the seeds of Chinese principles; to fashion the Tungans entirely after the Chinese pattern. A Tungan woman in a Chinese family was too great an anomaly to have afforded even rare illustrations. By the Chinese the circumstance would have been regarded as an unnatural phenomenon, an outrage against nature. In all respects except one these people were at last welded to the Chinese. These, who have no religion, but a philosophy which instils into them practical ideas, possess the one redeeming quality of respect for their parents, and a great reverence for, and a pride in, their ancestors. The Chinese had learned to reason before religious faith had obtained an influence in the world; the latter has, therefore, gained no ascendancy over them, but their reasoning has developed a practical morality. Their religious principles are based on a sense of their own antiquity, and are strongly tinged with a consequent spirit of exclusiveness. A Chinese respects his father because, if he himself is not respected by his offspring, he may, when incapacitated by age, find himself neglected and without the necessary means of life. This form of practical morality is unavoidably productive of selfishness. The Chinese have consequently no regard for those upon whom they are in no way dependent, and keep at arm's length all who

The Chinese Empire
no homogeneous, but a di-
vided, family.

have not with them a common ancestry. It was constantly impressed upon the minds of the Tungans,—and all other races in contact with the Chinese are reminded,—that they do not come of the hundred primitive families. It has followed from this, that the Mongols, Manchus, Kalmuks, and Tungans, who have composed the Empire, have never blended with the Chinese proper, or combined to form one harmonious society. The prevalent idea among the Muhammadans of Turkistán is that the Chinese are not the descendants of Adam, but of beings created before man in a somewhat similar shape. The result of close contact with the Chinese has been that each people has, in a great measure, become imbued with Chinese ideas and casuistry.

The Kalmuk in China remains still a Buddhist and the Tungan a Muhammadan. Whether it is to be ascribed to an adherence to the laws of the Prophet, or to any other cause, the Tungans have hitherto preserved all their peculiar physical powers; they observe strict rules in life, abstain from drink, opium, and even from tobacco. On the other hand, assimilating themselves to the Chinese, these different people have, with other sentiments, each imbibed a great measure of exclusiveness. Thus, all the elements of the Empire are estranged from each other. The Tungans have gone further; they hold themselves aloof from the Central Asiatics of the same race from which they themselves sprang, and actually refuse to give their daughters in marriage to Sarts, who, as we have seen, also claim to be considered the "remnant" of those people led by Alexander into Central Asia.

Lacking reciprocal cordiality, these discordant elements in the Chinese Empire were made to harmonise as much as laws, defining

very nicely the relations of one to another, could conduce to that end. But the Tungans, although equalised under the laws with the Chinese, were not allowed to fill high offices in the state, nor were they, except exceptionally, elevated to superior grades in the army. Furthermore, the Tungans in the military service were not formed into distinct bodies of troops; the corps in which they served were composed of a mixture of Tungans and Chinese. These troops were placed by the Manchu Government under the green banner, as much, perhaps, because in the southern parts of Asia green was the Muhammadan colour, as because it was the prevalent colour in Chinese women's attire. Thus, the colour of the banner under which these Chino-Tungan troops were ranged was, no doubt, at one and the same time significant of the contempt in which the cowardly Chinese were held by the Manchus, and the desire on the part of the latter to conciliate the Muhammadan Tungans, and to induce them to enlist as soldiers.

Mr. Heintz has said that the Chino-Tungan troops were conspicuous for their bravery and martial spirit. Mr. Van Hoyer thinks otherwise, and refuses to credit them with these attributes, which, he says, appertain only to the Mongol and Kalmuk cavalry, the first having distinguished themselves in the ¹Anglo-French invasion, (?) the second having the reputation throughout all Central Asia of being the finest horsemen. (*See pages 220, 301.*)

Such was the position of the Tungans in China when the invasion of the European armies, and the rebellion of the Taepings, presaged the downfall of the Manchu monarchy, and inspired the former with the idea of attempting to build on the ruins of the then tottering edifice a political structure of their own. They contemplated being perfectly independent, both of Taepings (the original Chinese stock) and Manchus.

It must be remembered that in 1862 the Tungans had increased to 30,000,000 of people, spread over all the interior provinces of China, and in great numerical preponderance in Kansuh. In and about Urumtsi there were about 200,000 Tungans; in Kuldja there were considerably less, and these people did not, as in Urumtsi, compose there the staple of the population. As in Urumtsi, the Tungans formed the staff of the custom-house in Kuldja; they kept refreshment-houses, and prosecuted a petty retail trade in Chinese manufactures. The garrisons in Zungaria and eastern Turkistán were filled with Tungan soldiers, and so confident had the Manchus at last become in the fidelity of that people that they had relaxed the rule against the elevation of Tungans to superior military grades, raising them even to responsible commands.

Having in the above remarks embodied some of Mr. Severtsof's observations on the character of the Tungans, I shall now proceed to give a summary of his account of the rebellion.

The Tungan rebellion originated in Shensi, and extended to Kansuh. Expelled from Kansuh, they retired to the western district

¹ Our Sikh cavalry never hesitated to charge three times their numbers of Tartar cavalry. After the first shock given to their nerves at Sin-ho they never stood.—*M. S. B.* (*See page 303, and Report on North, Mid China, &c., I. B. Vol. II.*)

of Urumtsi. This naturally rich, though devastated, district was re-peopled by Tungans, as well as by Chinese, after the conquest of Zungaria by the Manchus, so that the insurgents, on falling back, found numerous sympathisers and willing coadjutors. In the Kuldja district alone there were more than 60,000 families of this

Tungan rebellion.
(See pages 298 et seq.)

people, while in Urumtsi there were considerably more. In the Urumtsi district there was a Chinese military force of 20,000 men of the green banner; but this force was composed entirely of natives of the country who had volunteered into the service; they were not of the privileged classes of Manchus and Mongols. The greater portion of them were chiefly Tungans. The majority of the officers, too, were of the same race. The officer second-in-command of this body was himself a Tungan. With this officer at their head, the Tungans, in combination with the soldiers of the corps, rose in Urumtsi and in the surrounding district against the Manchu authorities. They seized the town, pillaged, and burned it. Urumtsi, being the centre of the trade and industry of the whole of the western region, had then a considerable population.

It was said by every one in Chuguchak that, on obtaining possession of Urumtsi, the insurgents massacred about 130,000 individuals of all ages,¹ and set fire to the stores of merchandise; 31,000 cases of Bohea alone were said to have been destroyed on that occasion.

After this all communication, both private and official, between Kuldja and Chuguchak was cut off, so that the Manchu authorities in those places were obliged to communicate with the Government by way of Kobdo and Uliassutai.

From Urumtsi one body of insurgents proceeded towards Kuldja, and reached Kur-kara-usa, where their further progress was checked by a force from Kuldja. Another body from Urumtsi, traversing an easy pass over the Tian-shan, entered Turkistán, where the Tungans soon occasioned a rising of the inhabitants of Kucha; these were all Muhammadans, and easily induced to rebel against their Manchu masters. After occupying this town, the insurgents marched westwards, cutting off the communication between

Importance of Aksu.

Turkistán and Kuldja by closing the Yan-shan-kou pass, and then sat down before Aksu. The roads to the north to Kuldja, to the south to Khoten, and the west to Kashgar and Yarkand, all passing through Aksu, render the situation of that town of great strategical importance; wherefore the Manchus were particularly anxious to defend and preserve it. The commandant, sensible of this, sent out all his available troops with the militia, to drive away the rebel army from before the town. The Manchu soldiers were beaten.

Such was the condition of affairs in the sixth moon of the year 1864. The chief military commander in eastern Turkistán, rightly anticipating outbreaks in all the remaining western towns of his circuit, applied to Kuldja for assistance, but the pass previously mentioned being occupied by the Tungans this aid could not be supplied to him. Besides, the Tungans of Kuldja, who had in 1862

¹ In the district, perhaps.

attempted to revolt, were always prepared to break out afresh, so that if even the pass had been free the authorities of Ili could not have spared a single man. At this point Mr. Severtsof's narrative ceases.

To this point Mitchell's narrative may be followed, but not further. (*See pages 454 et seq.*)

In Urumtsi, when under Tungan rule, there were said to be 25,000 to 30,000 men capable of bearing arms.

Although, as before stated, the Chinese garrisons were stronger in the interior—that is, in eastern Turkistán—than in Zungaria, they were, nevertheless, the first to succumb before the Tungans and Yákub Beg. In Zungaria there was a considerable proportion of the Chinese element among the population and the troops. In Turkistán the forces were mainly composed of Tungans and Muhammadans, and were even officered by them; in Turkistán and Zungaria they composed the entire staff of custom-houses, and held commands under the green banner.

In Turkistán also the population was exclusively and rigidly Muhammadan. This was not the case in Zungaria, which was filled with Kalmuks, with Chinese colonists, traders, artificers, and with a numerous class of Chinese official supervisors.

This will account for the several checks received by the Tungans in the north, and for the successful resistance long offered by the Chinese garrisons in Zungaria before the final catastrophe which overtook the one in Kuldja.

The Tsian-kiung of Ili, while receiving applications from Aksu and elsewhere for assistance which he was unable to render, was himself sending constant and urgent requests for Russian support to Fort Vernöë.

At that time the Tungans had stirred nearly the whole of the population of Zungaria to revolt; they had wrecked Kur-kara-usa; they were masters in Chuguchak, and were preparing to advance on Kuldja. The Chinese grew frantic with despair. They addressed pathetic appeals and sent unceasing messages to the Russian commander at Fort Vernoi, but that officer either had no authority to give them the aid required, or, seeing their precarious position, would not run the risk of involving his men in danger.

On the 7th March 1866 the Tsian-kiung gathered together all his family and retinue, and perished with them in the ruins of the fort, which with his own hand he blew up with cool premeditation. (*See page 306.*)

The news of the rising of the Hoi-hoi-tsi, or Tungans of Kansuh, does not seem to have stirred the inhabitants of Ili to rebellion for some time, and the insurrection might not have

The Taranchi rising. excited the bulk of the population of Zungaria—too busily occupied in agriculture and trade—had it not been for incidental circumstances which worked on the minds of the Tungans and Taranchis. The incidental circumstances were these: The hostile fronts presented to the Russians by the Bukharians and Kokandians; the warfare along the whole of the line from Kuldja to Tashkend,—*i.e.*, along the whole extent of the northern trade route

from China into Central Asia; the consequent collapse of trade, which threw most of the people out of their occupations; the gathering together in Kashgar of numerous fugitives from Bukhara and Kokand, which added to the fanatic element in all the countries to the east of the scene of Russian operations; the revolution in Kashgar; the sudden and easy deliverance of that place and of others from China; the impunity with which these defections occurred; the closing of the southern trade route; and, lastly, the exaggerated accounts of the success of the Tungans in Kansuh. All these circumstances ripened the Taranchis for revolt. The appearance on the scene of the northern body of Tungans was the signal for the instantaneous rising of Muhammadan Taranchis who required no persuasion. The neighbouring Kirghiz, ever ready to plunder, were easily induced to side with them under a promise of rich booty.

The result was a simultaneous massacre of the Chinese and Manchus, the destruction of Chuguchak, the sacking of Urumtsi, Manass and Kur-kara-usa, and other small towns and villages; the appropriation, wrecking and burning of all the Chinese stores; and the investment of Kuldja, its seizure, and the subsequent fate of its citadel and garrison above recorded.

Fifteen thousand of the inhabitants of Kuldja took refuge in Russian dominions, but 90,000 remained to be enslaved. The Kalmuks who remained true to the Chinese Government decamped, some into the heart of the steppes, some into the Russian limits. This sanguinary event removed China by more than 1,500 miles from the Russian Semirechensk district, destroyed the Chinese trade, and threw it, as the Russians are inclined to say, into the hands of the English.

Next came a division of the spoils among the confederates; and over this they quarrelled. The Tungans, boastful of their Chinese cultivation, asserted their own rights over the conquered country. The ruder Taranchis objected to a fresh subordination, and, being the most numerous in Zungaria, fell upon their allies, massacred the Tungans in Kuldja, and drove the rest beyond the limits of the Ili valley through the Talka pass. The Kirghiz having enriched themselves with plunder, and fearing lest the Taranchis should make them disgorge, moved their encampments into the deserts and steppes, whence some of them were afterwards chased by the Kalmuks and obliged to take refuge in southern Siberia.

Zungaria then became divided between the Taranchis and Kalmuks thus,—the Tarbagatai or Chuguchak district was held by the latter, while Kuldja and the neighbouring towns were held by the former, the separating line being Kur-kara-usa, which had been laid waste and abandoned.

Apprehensive of their isolated position, they sent emissaries to Yákub Beg, suggesting to be taken under his protection. He was in no position to aid them.

Commencing from 1864, the Zungarian rebellion became serious; to meet events in 1867, a greater portion of the Semipalatinsk district was absorbed into the Semirechensk district, and included in the province of Turkistán, the

Precautionary measures
taken by Russia.

whole of which was formed into a military circuit subordinated to a chief commander of the troops within it. When this was effected, General Kolpokovski was called upon to state his views with respect to the proper defence of the frontier. He thereupon drew up a paper. His recommendations were approved, and in 1868 the posts enumerated on page 562 were occupied. (*See pages 673 et seq.*)

For account of the Russian occupation of Kuldja, see page 563.

NARRATIVE OF JOURNEY—continued from page 369.

ROUTE No. 8.

From Umiozta, Aksu was reached by the stages below:—

1ST STAGE.

19th June.—The road, taking two lines of cart traffic with difficulty, traverses the suburb, well-furnished with shops, chiefly held by Turks, &c., supplying mule gear, coarse cloth, fir poles, bread, &c. Streams course along the street, from which the drinking supply is drawn; they have previously irrigated gardens, often highly manured, and served all the washing purposes of the inhabitants.

Beyond the suburbs the hills to the east are 5 miles, and those to the west one mile distant. Under the latter is a broad (500 to 600 yards) gravelly river bed, in which flows a stream. (*See Sketch No. 55.*) At 7 miles out the hard track passes over a gently undulating, stony and barren country. A direct pack-road leads to Toksun *via* Lansan. (*See page 346.*) At 11 miles low gravelly hills and rocky undulations are traversed. At 16 miles the plain fronting the snows is crossed. This plain is generally barren, and extends far to the westward. On a line 120° , it penetrates into the Tian-shan range, with a general width of 4 to 5 miles, and leads up to the natural passage through the range afforded by the drainage of the country, which is here to the south. (*See Sketch No. 56.*)

Yen-tse is an inn, situated on the barren plain over which the cart-track runs, at times over spongy clay, at others over stones or gravel. A little grazing occurs here and there, and water lies and forms lakes under the hills bordering the re-entering plain to the westward.

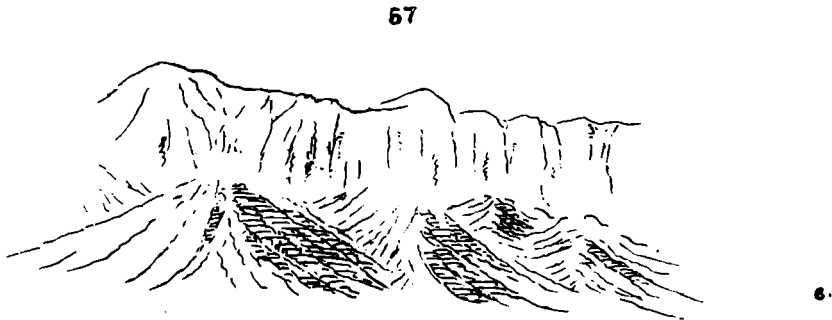
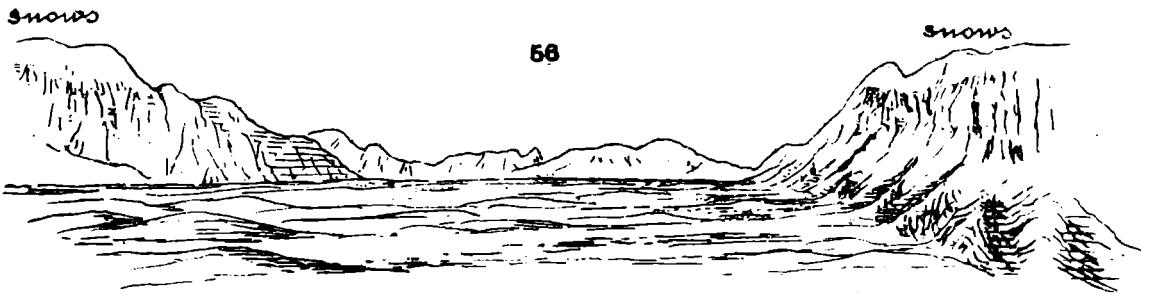
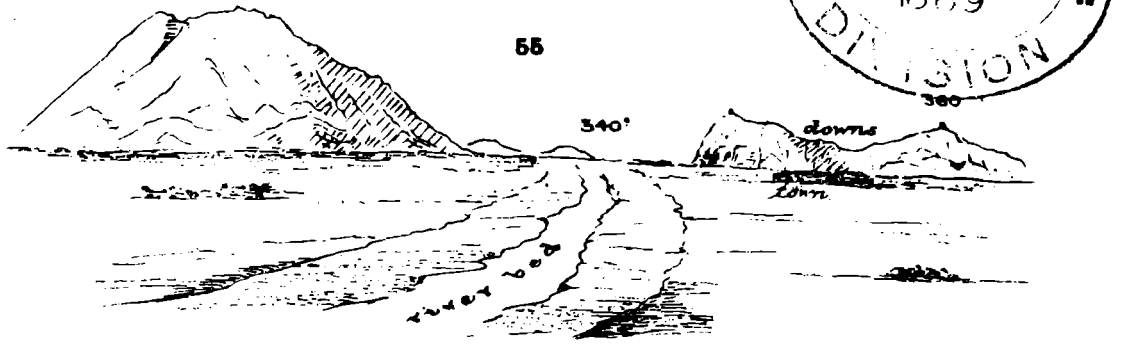
TSWAI-WAH-PU.—11½ hours.—87 *li.*—Bar. 26.15".—
Temp. 72° . (3780'.)

(A station in the waste. The residence of a few Turk and Chinese families, with a little grazing.)

2ND STAGE.

20th June.—The track passes over the gently descending, barren, gravelly plain, with patches of grass here and there. At 11 miles is an inn-yard and ruined village. The border hills are steep, with skirts of shingle spreading out in fan-like shapes, and held up at steep angles. (*See Sketch No. 57.*)

At 21 miles the small, well-wooded oasis fronting the gorge in the Tian-shan foot hills, which here lowers very considerably (the range



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I.E. June 1888.

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itself being wanting as described in page 362), is entered. The stream which here flows through the range rises a few miles to the eastward, in which direction the snowy range is 10 to 12 miles distant. (*See Sketch No. 58.*)

TA-BANG-CHING.— $8\frac{3}{4}$ hours.—70 *li*.—Bar. 26·175".—
Temp. 80.° (3,750'.)

(A small village, with many ruins.)

Inhabitants, 40 Chinese and 160 Chinese Muhammadan families (Tunganis). Neither snow nor rain falls here in any quantities. High winds blow frequently across the re-entering plain, and over the depression in the hills to the plains about Toksun.

The heaviest rain is said to fall in September.

3RD STAGE.

21st *June*.—At 3 miles from the village the hills are entered, the road passing through the cultivation and along the shaly slopes of the hills to the west.

A ruined fort, with mud walls, built on a low eminence of shale, fronts the gorge. The road through the hills, here broken and intricate, undulates with steep gradients, along those bordering the stream to the eastward, passing through narrow ravines and over necks, generally over loose shale. At 8 miles a ravine, 200 yards wide and bordered by perpendicular rocky heights, is traversed. Bushes fill its bottom.

There is an inn here. Bar 26·7". Temp. 70°. (3,150'.)

The greatest height passed over was Bar. 25·55", Temp. 61°. (4,400'.) Hills, of shale with veins of felspar; slopes often 1 in 10, and at times 1 in 6 and 1 in 5.

A mule-track keeps down the river; the cart-road shortly leaves the deep valley, and, by gravelly slopes, continues to wind amongst the barren shaly hills on its left bank. This pass is a more difficult one than that from Hami to Barkul, being more undulating and heavy for carts, and over loose shale; pack-tracks are numerous. ¹Shale fills up all the valleys, which are flat-bottomed; sections often exhibit a thickness of 30 to 50 feet of it.

PAY-AN-KWAH—50 *li*.—Bar. 26·72.—Temp. 75°. (3,150'.)

21st *June*.—Small spring and a little grazing; a high wind blows daily.

The hills are now soon left, and their long, gravelly skirts traversed. At $2\frac{1}{2}$ miles a branch cart-road leads to Turfan (direction 90°), two days' journey distant, or 50 miles. Hills rise out of the gravel skirts

¹ This filling-in is peculiar to this section of the Tian-shan range and its spurs and outliers. (*See pages 352, 475, 506.*)

Huc thus describes the mountains at Che-sui-doze bordering the Yellow River on the right bank (*see page 225*):—

"In the hollows and chasms of the precipices formed by these lofty mountains nothing is seen but great heaps of mica and laminated stones, broken, bruised, and in some cases absolutely pulverised. This wreck of slate and schist must have been brought into these abysses by some deluge, for it in no way belongs to the mountains themselves which are of granite."

of the main range, which have been formed by the filling up of all intervening valleys. Mica and felspar, gypsum, &c., occur plentifully amidst the gravel. At 6 miles the road descends the shingly bed of a dry water-course, $\frac{1}{2}$ mile broad; shingle is banked up steeply against its high perpendicular banks of clay. (*See Sketch No. 59.*)

SHOW-TSOW-KOW.— $3\frac{3}{4}$ hrs.—30 li.—Bar. $27\cdot4^{\circ}$.—Temp. 88° .
(2,350')

Station with a little grazing.

4TH STAGE.

22nd June.—High wind.

The foot hills of the Tian-shan, of shingle or of clay covered with shingle, are gradually left by descending its shingly skirts; track, painful to both man and beast, and heavy for carts. At 17 miles the oasis of Toksun is entered; its main direction is east and west; farmsteads and valleys are dotted here and there, but the grazing is often poor; weeds cover much of the soil, and much lies uncultivated. It is plentifully watered; soil gravelly clay. Trees grow about the villages. The town lies on the right bank of Ta-bang-ching stream, here 30 to 40 feet wide and spanned by a bridge.

TOKSUN.— $8\frac{3}{4}$ hrs.—72 li.—Bar. $29\cdot8''$.—Temp. 85° . (350')

Turfan is distant 40 miles and Hami 15 ordinary cart stages, or about 380 miles, over a more or less hilly country. Corn and barley must be laid in here for 4 days (to Pechen). (*See page 339.*)

The climate of Toksun is oppressive and hot. It lies in a valley between two sloping plains of gravel and sand forming the skirts of barren hills rising to considerable elevations. The river forms lakes, 10 miles to south-east of Toksun. There are Mongol villages and 200 Mongol families located there. Bridle-paths lead thence by the hill skirts to Karashahar, along which water and grass are found.

The population consists of 400 Turk, 200 Tungani, and about 15 Chinese families, and its garrison of 250 cavalry and 250 infantry *braves* from Hu-nan and Shensi. There are several mud forts to the south-west of the town. The principal one adjoins the town itself and is the residence of the Military Mandarin. It has a side of about 500 yards, with centre and corner bastions. (*See Sketch No. 60.*)

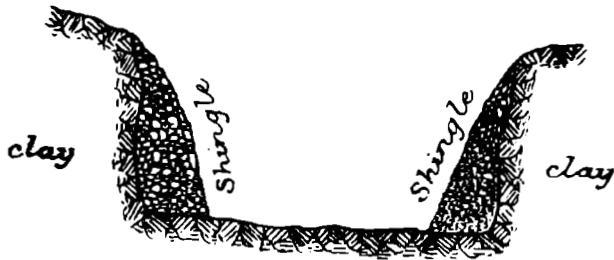
The climate of Turfan is said to be very hot; the account of it, however, given in the *Turkistán Gazette* by I. Ramensky, and translated by P. M., seems greatly exaggerated. His accounts of the cotton grown reads like a fable, and his expectations of the possible magnitude of the crops seem visionary. The price of cotton on the spot was said to be 7 taels for 133 $\frac{1}{4}$ lb. Apricots ripen in May and grapes are cut in July.

The oasis is comparatively a small one. It lies low in the basin of a deep depression. Toksun is elevated 350 feet; Hami, 2,600 feet; Lob-nor, 2,200 feet.

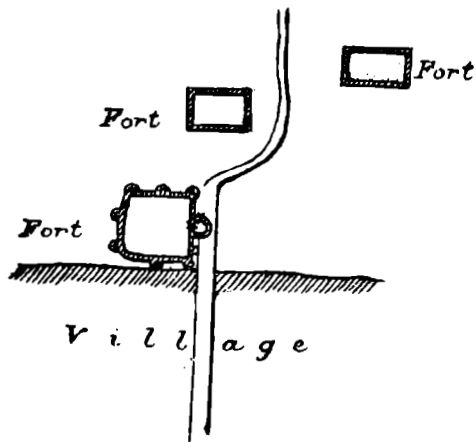
At Toksun Kashgaria may be said to be entered, for, although Yákúb Beg extended his authority over Turfan and Hung-Miotza, or

SECTION

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Urumtsi, yet nothing to the eastward of Toksun was held, except under a precarious sway; indeed, his greed for territory caused him to make the great military mistake of not limiting his kingdom, to the eastward, to the Karashahar district, its natural and strategic boundary, and the passes leading to which are commanded by Toksun. Had he been in a position to occupy Zungaria strongly, he might with safety have stretched the limits of Kashgaria to Hami, but between Hami and the Karashahar district there is no intermediate defensible frontier.

For these reasons Kashgaria will be considered to commence at the Karashahar district, of which the outpost is Toksun. Here was the original limit of the Chinese province of Kansuh.

Before proceeding with the narrative journey, a description of Kashgaria and its history up to date is here introduced; the narrative of the journey is resumed at page 473.

A.—BRIEF DESCRIPTION OF THE TIAN-SHAN MOUNTAINS.¹

(Kostenko.)

Direction and nomenclature of the main range and its offshoots—Geognostic character of the system—Its snow-line, glaciers, and snow-bridges—Longitudinal and transverse valleys—Volcanic nature of the range denied—Its mineral wealth: coal, iron, gold, &c.—Flora and fauna—The tribes peopling the Tian-shan highlands—Longitudinal and transverse roads, and their value as means of communication.

The Tian-shan² Mountain System.

Under the name Tian-shan we must understand the vast mountainous system which serves as the watershed of the Rivers Sir-Daria and Chu, of Lakes Balkhash, Ala-kul, Ebi-nor, and Ebi-gesun-nor on the one side, and the basin of the upper Amu and Lake Lob-nor and River Tarim-gol on the other.

This mountain system belongs to one of the greatest on the globe, both as to length (about 1,666 miles) and height, which in its highest peaks everywhere exceeds the limit of perpetual snow. Hence this range is called by Chinese geographers "Tian-shan," which, being interpreted, signifies the "Heavenly Mountains." The average height of these dominant peaks varies from 16,000' to 18,000', whilst there are summits of 21,000' and even higher (such as Khan-Tengri in the Muz-tag). The Tian-shan range begins somewhat to the east of the Chinese towns of Barkul and Hami. At first it lies in an even parallel, and then inclines to the south-west. The remarkable peculiarity of the Tian-shan range is that the system on the east extends at first almost along an even parallel, whilst, as it advances westwards, it opens out and forms many groups, which still continue to preserve a nearly parallel direction. Between Barkul and Hami the intervals between the several ranges of the Tian-shan

^{*} General idea conveyed by the name Tian-shan.

^{*} Nomenclature and direction of the main range and its branches.

¹ For details refer to Kostenko's *Turkisthan Region*, Volume I. There also will be found, fully described, the ramifications of the Tian-shan in Russian Turkistân, and their connection with the basins of the Sir-Daria and Amu-Daria rivers.

² More correctly spelt T'ien-shan.

scarcely exceed 46 miles,¹ *i.e.*, from the foot of one slope to the foot of the one opposite; whilst on the meridian of Kashgar, in order to get from this town into the cis-Ili plain, it is necessary to traverse no less than 250 miles, and to cross, not one, but eight parallel and for the most part snow-clad ridges, lying directly one behind the other, separated by high-lying lakes and river beds.

The more extensive ramifications of the Tian-shan are noticeable at the western end. These ramifications begin at the sources of the Sir-Daria, where the Kara-Kulja takes its rise. At this point the main range is directed along the southern limit of the valley of Fergana, whilst a spur to the north-west lies along its eastern end, and then unites with the mountains of the Urtak-Tau (Ala-Tau) and Chatkal, which rest on the right bank of the vast basin of the Sir-Daria. In consequence of this ramification, the western end of the Tian-shan presents the appearance of a gigantic ruin, one end of which is represented by Kara-Murun, situated near Julek (on the north-west end of Kara-Tau), and the other by Kotink-Ku, the termination of the Hisar range at the Bukharian town of Khuzar. The distance between these points along the same meridian is 400 miles.

West of Urumchi the Tian-shan is divided into several chains, lying at a greater or less distance from each other, according to the size of the basins of the Rivers Yulduz, Tekes, Ak-sai, Ili, Chu, Talas, Narin, Kara-Daria, and others, or of Lakes Issik-Kul, Son-Kul, and Chadir-Kul. The first decided ramification is noticeable on the meridian of Urumchi, at the source of the River Borotu, a tributary of the Khadik, which falls into Lake Bagrach-Kul (Boston-Nor). The northern branch of this stream must be recognised as the main one, under the name of the Katun-Daba, one of the sources of the Kunges.

The waters of the Borotu and Khadik are separated by this range from a series of small streams which flow towards Lake Ebi-Gesun-Nor (Air-Nor), though many of them never reach it. Mounts Chukhoi, Khedu-Tag, Beliak, and Kukenak form the southern limit of the Borotu-Khadik basin. The last-mentioned lies about six degrees (*i.e.*, 313 miles) to the west of the meridian of Urumchi. Near the meridian of Kucha the southern Tian-shan range is united with the northern by the diagonal chains of the Narat-Daba and Ebtu-Daba, which divides the sources of the Kunges and Khadik. The mountains last named are here the main representatives of the system known as the Celestial Mountains, whilst on the north-west the Katun-Daba and Boro-Khoro (Iren-Habirg, Talki), which separate the right bank of the Ili from the Rivers Borotola and Kitin, are but eminences of secondary importance.

At a sharp angle to the Boro-Khoro range lie the Jungar Ala-Tau mountains, of equal height. These shut in the basins of the Rivers Borotola and Kitin on the north side, and separate them from those rivers which flow into Lake Balkhash.

The great mountain group to the north of Kucha, called Eshik-Bashi, is the beginning of that portion of the Tian-shan which from

¹ At Nan-shan-kow 16 miles; at Spi-kho the range sinks into a broad belt (about 25 miles) of broken hills below the snow-line, again to rise about Bogdo into majestic peaks only again to sink into the valley leading from Umiotza to Ta-bang-cheng, where the broken foot hills have a breadth of 25 miles.—*M. S. B.*

its height is most deserving of the title of the "Celestial Mountains," but which is called the Muz-Tag,¹ *i.e.*, the "icy mountains," because of the quantity of glaciers and seas of ice (*mer de glace*) that they contain.

Among the summits whence spring the right affluents of the Tekes and the streams of the Sariasi on the north, and having the Muzart and the Kizil-su rivers on the south, tower the most colossal of the peaks of the Tian-shan, among which Khan-Tengri has an elevation of probably more than 21,000' above the sea-level.

The branches, too, on the north and south of the main range and parallel to it are noticeable for their height. The first of these is called the Uzun-Tau (Temurlik). It stretches along the left bank of the Tekes and the right of the Kegen. The second is known as the Altin-Khusu. These mountains lie to the north of Sairam and Bai, villages situated so much above the sea, that snow often falls there, whilst their normal climate is cold; and this notwithstanding that they are in the same degree of latitude as Naples.

The Uzun-Tau range, which separates the Tekes from the Ili, is continued westward, and is there known under the name of the trans-Ili Ala-Tau. It forms the northern limit of Issik-Kul and cuts off this lake from the cis-Ili steppes.

But, going westward, the principal range on the meridian of the Kashgarian town of Aksu is again broken up into several chains, like the branches of a half-open fan. Of these the southern must be accepted as the principal in a generally geographical sense; or, in other words, the Sariasi, or further on the Kok-Shal. This is the watershed of the Rivers Narin and Chu on the one side, and the Tarim-Gol on the other.

The vast three-cornered tract which lies between the Issik-Kul and the Sariasi range, together with its furthest branches, is full of very high peaks, which all have one general direction, from east to west or south-west. An attentive examination of this locality will enable us to trace six chains, each of which consists, so to speak, of several links that bear various designations.

With regard to the geognostical formation of the Tian-shan, the attentive researches of the mining engineer Mushketof, who explored the northern and western portions of this range from Tashkend to Kulja, and further to the east, show that the rocks composing the Tian-shan are very varied both as regards their petrography and the period of their formation; but although there are formations of a purely sedimentary kind, these are comparatively few, and crystalline and metamorphic rocks predominate. These latter crystalline rocks Mushketof divides into three categories, each of which is marked both by the period of formation and its petrographic peculiarities, as also by the part which each has played in the composition of the Tian-shan.

To the first category belongs the granite group, which comprises granites, quartz, porphyries, &c. To the second category, the dioretic or porphyritic group, comprising diorites, aphanites and various porphyries. And finally, to the third or most important category belongs the amygdaloid formation. The mountains formed of rocks

¹ *Muz* in Turkish signifies "ice," and *tag* or *tau*, a "mountain."—(Author.)

of the granite group are the most ancient and the most massive, and always have a fairly smooth or at least but little jagged ridges, whilst their direction bears west-north-west. The second group, the dioretic rocks, are, in comparison with the preceding, less widely distributed. The ranges which are composed of these are far inferior in size and continuity to those of the granite group. They lie principally in a south-westerly direction. Their forms are sharper and less regular, whilst they have deep rocky gorges, filled with masses of débris, brought down by the rushing torrents, which form numerous small cascades in their fall from height to height. On their crests are found the most varied kind of crag, some taking the shape of towers, others of teeth, cylinders, needles, and the like. The mountains which are formed of rocks of the third category lie chiefly in a north-westerly direction. As a rule, they are not high, and indeed seldom reach the snow limit. Their contours are smooth and cupola-shaped; and, although they are fairly distributed, each separate range does not attain any size, either in a horizontal or vertical position. Their ridges are generally serrated; but their shape of exterior depends on the sedimentary or metamorphic rocks, which, on becoming rent, form the cragged ridges of the amygdaloid ranges. These rocks generally do not form separate ranges, as do the dioretic group, but appear in huge masses of dioretic and metamorphic schists, or form the cupola-shaped, columnal forelands of the more massive granite ranges. They then, so to speak, break up in places the integrity of the chain, and extend its dimensions in a traverse direction. On the basis of this short account of the features of the Tian-shan, it can be seen that the formation has not been effected during one but several successive periods, one replacing the other. So that, judging from the unusually energetic metamorphosis which is observable in the majority of the Tian-shan rocks, though indeed there exists no direct indication of this upheaval, their elevation must have been accomplished during several geological epochs, extending, it may be, even to our own time.

The snow-line of the Tian-shan lies, generally speaking, at a high altitude. In the northern ramifications (*i.e.*, in the Jungar Ala-Tau) it is about 10,000 feet above the sea, in the trans-Ili Ala-Tau and in the 43rd parallel of latitude generally it rises to 11,000 feet (according to the observations of Semenof, Buniakof, and Severtsef). To the south it is still higher; for in the Alai, Turkistán, and Zarafshan groups it is more than 14,000 feet on the northern slopes. Still further to the south, in the Hisar groups and on the mountains of the Pamir, the snow-line lies at a height of upwards of 15,000 feet above the sea.

To the eastward (Barkul, Hami) the snow-line is at about 12,000'.
—*M. S. B.*

Almost throughout the dominant range and in certain of its branches there are glaciers. Especially grand are those glaciers found in the principal range which bears the name of the Muz-Tag, and which is crossed by the famous Muzart pass. After this in size come the remarkable glaciers of the Ak-Shiriak, explored by Kaulbars, the Shurof on the Alai, explored

by Fedchenko, and the Zarafshan in the Turkistán group, explored by the Iskandar-Kul expedition. The number of glaciers on the Tian-shan is not less than 8,000. But since sufficient observations as to their motion have not been taken, final deductions as to their descent or retrogression cannot yet be made. In like manner we have not yet any sort of data for coming to a conclusion as to the existence of an ice-period in the Tian-shan.

Snow-bridges in the Tian-shan are often met with much below the glaciers, *viz.*, at 5,000 feet or even lower—as, for instance, on the Kinach-Su, Kira-Kiz, and other places. These snow-bridges sometimes attain a considerable size, $1\frac{1}{2}$ miles in length and 105 feet in thickness. They are produced by the numerous masses of spring avalanches, and therefore the snow in them is mixed with rubble and pebbles, which are brought down together with the snow, from the surrounding crags.

The valleys of the Tian-shan range are divided into two principal types,—the transverse, with side windings of various dimensions; and the vast longitudinal valleys, which may be considered one of the most characteristic features of the Tian-shan.

The principal transverse valleys have their origin generally about the ridges of a range having a sufficiently regular basin or circle, and then soon pass into actual valleys, being hollowed out into gorges and openings which are frequently found to depend on the nature of the series of rocks composing the slopes of the valleys. Their beds are vertical, dark, and rocky, and their waters are rapid and turbulent, forming numerous waterfalls and in the wider places lakes.

The side valleys of the larger class differ only for the most part in size. At their mouths greater or smaller accumulations of conglomerate are always found—the product borne down by their waters.

The longitudinal valleys generally extend in a direction parallel to the main range for several tens, and sometimes hundreds, of miles. The sides are formed of masses or folds of sedimentary or metamorphic rocks.

Besides their direction these valleys have the following peculiarities. Their beginning or head is always formed of vast river basins, whilst their mouths are rugged gorges or defiles. In them are nearly everywhere noticeable the most recent lake deposits, which take the form of horizontal conglomerate and sandstone, and therefore it may be supposed that these valleys once were either great reservoirs or mountain lakes, and that such reservoirs subsequently

dried up, because the water shut up in them steadily percolated through the neighbouring range that could not resist its destroying force. Such water, having found an exit for itself, gradually deepened its newly-formed bed, and so flowed out, whilst it dried up its own reservoirs. These results have produced these vast valleys, which now yield, thanks to their high altitude (from 400 to 1,000 and 1,200 feet), rich pasture grounds and excellent situations for the summer stay of the nomad Kirghiz, whose *auls* literally cover their surface. The existing lakes are the Son-Kul, the Sairam-Nor, the Chadir-Kul, the Issik-Kul, and other smaller

ones, such as the Chukurchak-Kul, the Issik, and the Kinach-Kul, &c.

In the Son-Kul (9,400 feet) a great fall can be observed ; for with each year the River Kojerti-Su alone takes from this lake, to deepen its own basin, such an amount of water as may in time empty the entire lake, as many others have been so emptied. Not a little can be said as to the analogy between the existing and the former lakes, as to the similarity between the most recent deposits and the strong traces of the washing away of old formations, as well as the resemblance in topographical conditions.

The truth is that certain of the existing lakes have not apparently any sort of outlet, and are in fact completely pent-up basins (such as the Sairam-Nor and Issik-Kul) ; and yet there are certain indications which enable one to suppose that subterranean channels do exist. This would seem to be so especially in the case of the Sairam-Nor.

Volcauoos. The Russian scientists consider that no volcanoes exist in the Tian-shan. The so-called "Salfator" near the town of Kulga is said to proceed from the combustion of coal.

Mineral wealth. Numerous examinations that have taken place of late have shown that the quantity of beds of useful minerals in the Tian-shan is certainly very considerable, but that the quality of much of it is far from being uniformly good.

In places, however, the beds are so inconsiderable as scarcely to be likely at any time to attract the attention of traders, and yet, on the other hand, undoubted wealth is to be met with ; for example, the beds of silver and lead ore, iron, and especially rock salt, in the valley of the Kochkur, and of coal in the valley of the Ili, from 7 to 14 miles from Kulja. Besides these, it is known that copper mines subsist in many places. In the low-lying hills surrounding the Fergana valley there are rich naphtha springs, as likewise abundant yields of sulphur.

The low condition of metallurgic smelting may be ascribed to the sparse population and the limited cultivation of the soil. The roads leading from inhabited localities to places which contain minerals of any kind are difficult, whilst the small number of people in the country limits the demand for any such articles. It is therefore much more profitable to import metals from Siberia, or salt, kerosine, &c., from Orenburg, than to establish factories for such on the spot, where the yield would be far from compensating for the cost of their production.

Reason why metallurgic smelting is unprofitable. In Central Asia trade routes have long been known leading from populated oases towards European Russia—roads along which all goods must be taken by caravans of camels. These roads, in turn, depend on the wandering life of the nomads, who move about with their flocks and herds and other means of transport, sometimes from south to north towards Russia, sometimes from north to south to the Central Asia oasis. In conformity with these movements of the nomads, the problem of obtaining means of transport for trade caravans is solved, since all the pack-animals of the country accompany their masters in their wanderings from north to south and *vice versa*. For this reason the

people of Turkistán find it much easier and more advantageous to import their goods as well as metals some 1,000 miles from Russia, rather than to search for minerals anywhere away from the beaten tracks and far from Central Asian centres, though it be but a hundred miles to the mountains. It would, moreover, be very expensive to construct works very near the mineral deposits in the mountains, because these mountains are barren, and hence contain but few working men. The transport of machines, and still more the setting them up, would be difficult. The wages of such machinists and Russian workmen must of course be much higher than in Russia on account of the distance from the fatherland. But suppose a factory were established, it would still be necessary to have means of transport, *i.e.*, camels, mules, or horses. The maintenance of such in the mountains would be very risky. The cattle belonging to the natives never pass the winter in the mountains, where there is no forage, and even in the plains they are subjected to various privations. The demand would be small on account of the sparse population of Central Asia generally, and the limited requirements of the natives, and therefore the expenses attending the establishment of factories would be far from being repaid.

Of the minerals worked in the Tian-shan mountain of the Turkistán district, the coal of the Kulja district forms the greater proportion; but even here its yield is limited to 300,000 *puds* (5,180 tons) per annum, and this notwithstanding that the seams are unusually thick.

There is gold in the Tian-shan, for the natives have for a long time past found it in the sands of the Chatkal, the upper Chirchik, the Talas, the Kegen, Il, Borotola, and Zarafshan. But the amount of gold to be found in sand is very scanty and could only pay the natives for the search, for their conditions of life are thoroughly distinct from those of Russian traders. Indeed, the poorer only amongst the natives are employed in searching for it, and they pay no duties. Besides which, with them every workman is his own master. There is no outlay of any kind. All that a native needs is a *ketmen* (a wide and round iron shovel fastened at right angles to the shaft) and a trough to act as a cradle. His own labour is of no value to him, and he is content if he obtains a *poltinik*¹ worth of gold in a week.

The Tian-shan range throughout belongs to the category of those mountains which are especially scanty in forest growth. Its western portion in the confines of the Sir-Daria and Fergana provinces and the Zarafshan district is almost devoid of vegetation. In these parts the *archa*, a tree like the juniper, is only found in the depths of gorges. At the bottom of the ravines and in the beds of mountain streams other kinds of trees and bushes are here and there met with, such as the willow, mountain ash, poplar, *oblipikh* (wild rose), and the like. In the province of Semirechia and in the Kulja district the vegetation of the Tian-

¹ About 1s. 8d.—(*Trans.*)

shan is more plentiful. Here, on the northern slopes of the range, and at points where mountain streams issue from the passes, a more or less considerable extent of ground is noticed overgrown with firs—spaces which may even be called forests. The same sort of fir obtains here as is scattered over the vast stretch of country extending from the western limits of Semirecha to the eastern end of the Tian-shan range. This kind is distinguishable by its straight stem, which attains a height of from 70 to 90 feet. Its branches gradually shorten towards the top, giving the tree the appearance of a pyramid. Its cones, the size of one's fist, are of a dark-blue colour and hang at the end of long stems, quite vertically.

As we have said above, these fir forests¹ only cover the northern slopes of the mountains. Their presence no doubt depends on the amount of latent moisture in the soil. By far the most richly wooded portions of the range are known under the name of the Muz-Tag. Here, in addition to the fir, there are the birch, the apple, willow, mountain ash, poplar, and some shrubs. But the leafy kinds are completely lost amongst the mass of coniferous trees. The former are generally found in the beds of mountain streams, whose banks they fringe with a small border. The fir forests in Semirechia sometimes extend for many tens of miles. Nevertheless the name of forest, in the European sense, cannot be applied to them. They remind one more of the groves of European Russia. The trees stand at considerable distances apart instead of being interlaced with each other. They nowhere afford the pleasing shade of Russian woods; nor do they present any sort of serious obstacle in the way of progress, for they admit of the horseman, as well as the pedestrian, moving freely through them. The only exception to this is when the fir trees line the sharper slopes and the inaccessible crags. There the fir lets its roots down into the crevices between the stones, where there is still alluvial soil, although it seems as though the tree was growing in the stone alone. The poverty and accessibility of the forest lands in the Tian-shan have been the cause of the small amount and perfectly futile character of the opposition which the Russian forces have met with in their advances into the depths of ravines and the various ramifications of this range. They have met with more opposition in the adjacent steppes and open plains, in the capture of forts, and in field engagements. The resistance made against them in the mountains has been less, because they could not give their defenders secure cover. Favourable positions in the mountains could therefore either be easily turned or else taken in rear. An enemy could neither take advantage of forests, nor shoot from behind cover, nor oppose an advance by erecting *abatis*. In this respect the military operations in the Tian-shan present a complete contrast to those carried on in the Caucasus. Central Asian forces, when working in the mountains, seldom have to take breastworks, which are always constructed of stones, nor have they to cut through woods when bringing the mountaineers into subjection.

¹ Forests of pine occur about Umiotza and Barkul, on the main northern slopes at altitudes of 8,000' and over.—*M. S. B.*

Looking to the size of the territory occupied by the Tian-shan mountain system, its surface is one of the least populated in the world. Indeed, this mountain region almost wholly belongs to those few nomads who, in summer, find there excellent pasturage for their herds in the higher valleys and passes, and in winter descend to the plains. The central portion of the range from the sources of the Ili and the Muzart pass right up to the sources of the Zarafshan belong to the Kara-Kirgiz (the *Buruts*, or the wild Kirgiz). On the northern branches of the same range, *i.e.*, on the Jungar and trans-Ili, Ala-Tau, the Boro-Khoro, Uzun-Tau, and Alexandrof chains, and on the Kara-Tau and Chatkal mountains, live the Kirgiz (Kazaks). In the eastern portion of the Tian-Shan roam races of Mongol type, Kalmaks and Torguts, whilst in the most westerly branches of the Celestial Mountains there are settled races of Aryan origin called Tajiks (Galcha) and Yagnau. The former dwell along the course of the upper Zarafshan (Macha) between the Turkistán and Zarafshan chains, and the latter follow the course of the River Yagnab as it winds between the Zarafshan and Hisar ranges. The Turkish races, the Kara-Kirgiz and the Kirgiz (Kazaks), are distinguishable by their greater affluence. The entire wealth of these people consists in the cattle that roam over the rich pastures of the mountain valleys. The Kalmaks and Torguts, in consequence of their frequent and almost uninterrupted wars and enslavement, are extremely poor. So, too, from other causes are those Aryans who live at the opposite end of the same range. They are poor because of the poverty of the soil and the small amount which is fit for cultivation. The small hamlets occupied by the mountain Tajiks and the people of Yagnau are so poor that they have no bazárs, so that the inhabitants, in order to procure any article that they may want, must traverse the difficult and dangerous passes so as to reach the larger towns lying in the plain country.

From what has been said it is apparent that three types of races dwell in the Tian-shan—the Turkish, the Mongol, and the Aryan. It is remarkable that the richest and most affluent race of these, the Kara-Kirgiz, should be also the wildest and the most primitive, whilst, on the other hand, the more civilised races, the Tajiks and the people of Yagnau, are at the same time the poorest.

The Tian-shan mountains belong to the number of the least accessible of ranges, because of the deserts on the one side, and the heights of the major and minor chains on the other.

Roads and communications.

(See pages 422 et seq.)

It is especially difficult—indeed, it is almost impossible—to cross the main range in the winter season, when excessive cold and fierce tempests predominate, and the roads leading to the passes are blocked with snow. The Tian-shan divides western Turkistán (Greater Bukhara or Greater Tartary) and the Russian Kirgiz steppes from eastern or Chinese Turkistán, or, in other words, Lesser Tartary (Lesser Bukhara, Kashgaria) and the steppes of Gobi (Shamo). Two parallel postal roads border the northern and southern sides of the range. The northern road leads from the town of Tashkend, through Chimkend, Aulia-Ata, Vernei, Kuldja, the Talki pass, Manas, Urum-

chi, Guchen, to Barkul. The part as far as Kulja has not been long made (it was made when the Russians occupied the country), but the portion from Kulja eastwards is of much earlier construction, for it was made by the Chinese. This portion is known

The Imperial highways.

Their importance.

(See page 364.)

under the name of the Imperial road, and it serves to connect the province of Ili with Peking. The whole of this northern route from Tashkend as far as Barkul is very well adapted for wheeled traffic, and is practicable at almost all seasons of the year. The passes over some second-rate and third-rate groups, and the fords over some mountain streams (the Talas, Usek, Khorgas, and others), only impede progress for a comparatively short time during winter and spring.

The southern, or cis-Tian-shan, road leads from the town of Kashgar, *via* the towns of Aksu, Bai, Kuchar, Kurlia, Turfan, to Khami (Komul). This road was likewise long ago constructed by the Chinese, and is even more suited at all times of the year for wheeled traffic than the northern route. At Khami the two main routes unite and form one line of communication with the capital of China. The cross-roads joining the two above-mentioned postal routes are very few in number and are not very practicable. They only admit of pack-animals, horses or *yaks* (Mongol oxen—*see page 278*), with the exception of two¹ at the most easterly end of the Tian-shan, where Urumtsi and Barkul are connected with Khami by cart-roads. Without counting these, there are six cross caravan-roads over the Tian-shan. (*See page 369.*) The most westerly of these serves to connect Greater Tartary, or, speaking generally, the cis-Aral basin, with eastern

Osh to Kashgar.

(See page 415.)

(Chinese) Turkistán, or with the basin of Lobnor. This is the road which leads from Khiva,

Bukhara, Samarkand, Tashkend, Khokand, Margilan, and Osh, *via* Fort Gulcha over the pass of Terek-Davan, and so on to Kashgar. Fifty miles of this road across the mountains from Osh to Gulcha, or even a little further, has been converted into a cart-road. Beyond this point the road is but a tract for nearly 200 miles, *i.e.*, right up to Kashgar. Throughout this distance it traverses mountains and gorges, and comes into the Kashgarian plateau 23 miles from Kashgar. The whole distance from Osh to Kashgar amounts to 249 miles, according to Kuropatkin's survey. The most serious obstacles on this line is the pass over the Terek-Davan (12,700 feet in height). Progress over this is not possible throughout the year, but only from the beginning of October to the end of April, *i.e.*, during the seven winter months. From the end of April till the beginning of October, caravan communication across this pass is brought to an end, because of the melting of the snows. Caravans are then sent from Osh by a somewhat more circuitous route over the Alai, either by one which crosses the main range by the short pass, or by one over the Taldik-Davan (this is the most practicable road to the Alai from the Fergana valley²), which then passes along the Alai valley over the easy Tau-Murun pass, separating the basins of the Amu-Daria, Alai-Tau, and Kizil-su from

¹ (*See pages 351, 352.*) Between these are cart and pack tracks to Turfan and Pechen.

² We traversed the Taldik-Davan pass during the Alai expedition of 1876; and M. Severtsef crossed the Shart pass in October 1877.—(*Author.*)

the basin of the Kashgarian Kizil-su, which later on becomes the Tarim-Gol. Beyond the Tau-Murun pass both roads unite at Irkish-tam—that is, the direct one over the Kashgar-Davan and the more circuitous one by the Tau-Murun. The Tau-Murun road is not, however, practicable throughout the year. It admits of progress only during the four summer months, *viz.*, from the middle of June to the middle of October. From the middle of October this pass, on account of its high position above the level of the sea, lies deep in snow; hence trade by it is stopped for eight months of the year. From what has been said it is apparent that caravan communication between Osh and Kashgar takes place during 10½ months of the year. In other words, during May and the first half of June it is not possible by any route, but by the beginning of October it is practicable by either route. (*See pages 414, 423.*)

The second lateral caravan route leads from the town of Tokmak *via* Fort Narin to Kashgar. This road as far as Tokmak to Kashgar, Fort Narin is a postal communication, *i.e.*, is a cart-road. Beyond this point, it is a track which splits up into two branches, which lead to two passes over the main range lying parallel to one another. These passes are the Terekti and the Turgart.

According to M. Kaulbars, who traversed both these routes in his forward and backward journey in 1872, that by the Turgart is the more practicable of the two. It has since been converted into a cart-road throughout, with the exception of a short distance of some yards near the summit, which is being cleared. (*See page 527.*)

A third lateral road leads from the town of Karakol *via* the Bedal Karakol to Aksu, pass to the town of Uch-Turfan, and so on to the second capital of Kashgaria, the town of Aksu, distant 54 miles east of Uch-Turfan. This road is much more difficult than the preceding one, and consequently is traversed less frequently.¹ (*See page 513.*)

A fourth lateral road leads from the town of Kulja *via* the Uzun-Kulja to Aksu, Tau range (the Chapchal pass) and the Muz-Tag (the Muzart pass) to the town of Aksu. (*See pages 405 et seq.*)

This road connects the fruitful and well-populated valley of the Ili with the basin of the Tarim. It has long been used, notwithstanding the difficulty of moving over the *mer de glace* which lies immediately to the south of the Muzart pass. The length of this glacier is about 8 miles, and its width about 5½ miles. At the end of the glacier there is a ledge, some 25 feet in height, in which steps have been hewn. The pack-animals are let down from this ledge by means of ropes; and, as the raising of these beasts would be very difficult, this is the reason why caravans from the Ili valley to the town of Aksu go only by the direct route, and not back by the way we have just described. On the way back from Aksu, caravans avoid the Muzart pass by crossing the Bedal crest, about which we have spoken above. Nevertheless, the road by the Muzart was for several years during Yákúb Beg's rule in Kashgaria altogether closed

¹ Of Europeans, 2nd-Captain Sunargulof only has traversed it. He did so in the year 1877, when he made a sketch of it—(*Author.*)

for traffic, probably from a desire to secure his principal fortified post and his second capital, Aksu, from attempts on the part of the Russians.¹ (*See page 509.*)

The fifth cross-road leads from the town of Kulja up the Kunges (the source of the Ili), over the Narat pass by Kulja to Karashahar. the valleys of the Yulduz, down the Khadik (on former maps the Khaidugol) by the fort of Karashahar, to the town of Kurla, 26 miles south-west of Karashahar. This road is not difficult, but is little used, because it is very circuitous and traverses a barren and sparsely-populated locality.² (*See page 486.*)

Finally, a sixth cross-road leads from the town of Urumchi over the Davancha pass to the town of Kunia-Turfan. Urumchi to Turfan. (*See page 384.*)

Besides the principal cross-roads which we have mentioned, there are an innumerable quantity of foot-paths, used by traders and nomads, over the Tian-shan. **General remarks on roads.** These traverse the range in every possible direction. The general characteristic is, that where these roads exist in places intersected by wide mountain streams, they are practicable, and even possible, for wheeled traffic; but where such roads penetrate the narrower valleys, or, to speak more correctly, gorges, they are very difficult, because in such places they are taken zig-zag over steep crags, often overhanging precipices. A narrow foot-path, an *archin*³ or even less in width, cut in a rock overhanging a precipice, is called a *karniz*, or cornice. The Kirgiz call a beaten path over a sharp declivity a *kiya*. A hanging bridge of two poles filled in with twigs and earth, and hrown from one end of a cornice to the other, bears the name of a *balcony*. There is no paucity of such kind of contrivances in the Tian-shan roads. The pack-animals with caravans and troops have to be unladen before going over such dangerous places, and the loads taken over on men's shoulders.

During the summer there is no deficiency of either water or forage for the animals along the Tian-shan roads. The forests furnish fuel, and where there are no forests there will be found dung. (*See page 269.*) In winter, from October till April, passage across the Tian-shan mountains nearly everywhere ceases, because the roads lie deep in snow. If not taken with one, there is neither forage nor fuel to be got. The frosts, too, reach 30 degrees⁴ and more (F. 36°). Snow-storms make the route even more heavy and dangerous. (*See page 508.*) Even in summer not a few difficulties have to be faced in traversing the Tian-shan mountains. Besides the cornices and balconies above mentioned, the traveller is often obliged to ford swift and turbulent mountain streams, and to cross ranges that are sometimes covered with snow. Bridges across mountain streams are not always to be met with,

¹ Russian travellers, Shepelef in 1871 and I myself in 1872, went along the Muzart road only as far as the ice wall spoken of, where there was the Kashgarian picket of Mazar-Bash. Beyond this to Aksu, 133 miles, not a single European has yet penetrated.—(*Author.*)

² Captain Zariouf went in 1875 along this road from Kulja to the Narat pass, and beyond to the gorge of the River Khadik, and mapped it topographically. In 1876 Prjevalski went along it on his way through Korla to Lob-nor.—(*Author.*)

³ An *archin*=28 inches.—(*Trans.*)

⁴ By Reaumur reckoning.—(*Trans.*)

whilst the crossing by fords is attended with danger, if footing is once lost. These mountain streams are especially dangerous in the period from April to June, during which they are swollen by the rush of the melted snow. From June the waters begin to fall; and, as the autumn approaches, they grow smaller and smaller.¹ It should be observed that the quantity of water in these mountain streams varies during the twenty-four hours. It often happens that streams which are quite passable in the morning become quite unfordable by the afternoon or towards evening. The higher the passes in the Tian-shan, the more difficult are they. The highest of them are covered with perpetual snow, and sometimes contain glaciers. It is particularly difficult to pass over these glaciers. Not only do horses slip and destroy themselves against the sharp projecting stones which cover their surface, but often men on foot fall and are killed. The most dangerous obstacles of all are the deep *crevasses*, known under the name of *wells*, which are often met with amongst glaciers. Where there are many of these, men on foot only can go, and then not without taking certain precautions. The men in such cases tie a stick to themselves crosswise; and this keeps them from falling into the *crevasse* until their companions who are coming behind release them from the critical situation by means of ropes. This, for example, is the method adopted for travelling over the Tarak pass on the direct road from Khokand to Garm (the capital of Karategin).

Having expounded the general features of the Tian-shan mountain system, let us pass to a separate description of the ranges of which it is composed. In our description we will adhere to the former order, *i.e.*, we will begin with the eastern portions and so arrive at those lying to the west of the Tian-shan.

B.—DESCRIPTION OF THE SEVERAL RANGES FORMING THE TIAN-SHAN MOUNTAIN SYSTEM.

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" Katun-Daba	400
" Narat-Daba	401
" Kaitu-Tag	401
" Jungar Ala-Tau	401
" Boro-Khoro (Talki)	402
" Uzun-Tau	405
" Muz-Tag	406
" Sarias	413
" Kok-Shal	413
" Borkoldai	414
At-Bash-Tau range	414
Mountains to the south of the River Ak-Sai	414
Narin-Tau range	414
System of the Yaman-Tau (" Evil Hills ")	414
Ak-Shiriak-Tau (Western range)	414
Ak-Teke mountains	414
Fergana range	414
Mountains to the north of the River Narin, the Terskei-Tau range	414
Ak-Shiriak-Tau (Eastern range)	414
Jitim-Tau range	414
Son-Kul plateau	414

¹ This remark applies to all snow-fed streams and should be borne in mind.—*M. S*

B.—DESCRIPTION OF THE SEVERAL RANGES FORMING THE TIAN-SHAN MOUNTAIN SYSTEM—*continued.*

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Mountains to the south of the Karakol river	414
„ between the rivers Narin and Talas (the Susamir)	414
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Range Alexandrof	414
„ Urtak-Tau	414
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„ Alai and the roads crossing them	414
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Range Turkistán	416
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Pamir plateau and its system	416
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Between Khami and Urumchi; the mountains composing it are not very high; for not a single large river¹ takes its rise therein. Nevertheless, snowy peaks extend right up to the very meridian of Khami; the three-headed, snow-clad peak of Bogdo is the highest of this range. (*See page 360.*)

The following roads lead by the main passes of the Bogdo chain: (1) from Khami to Barkul at the station of Yan-Tsuan-Kou (Nan-shan-kow); (2) from Khami to Zungaria, passing Barkul between the stations of Yan-Dun and Leba-Tsuan; (3) between Leba-Tsuan and Taolai-Bulak—all three passes are suitable for wheeled traffic; (4) from the Kitai hamlet to Pichan along a pack-road; lastly, from Urumchi to Turfan. (*See Route No. 7.*)

This branch of the Tian-shan in all probability belongs to the highest and most inaccessible; for not a single map and not a single indication of Chinese geography shows the existence of any lateral communications across it. The comparative magnitude of its water system, which on the north side fills the two large lakes Ebi-Gesun-Nor and Ebi-Nor, and on the south the Boston-Nor,² sufficiently shows us that much snow lies on its summits. This circumstance in a dry climate, such as the one in question, can only occur in the case of mountains of great altitude—say from 15,000 to 16,000 feet above the level of the sea. The northern wall of this range, the width of which at Manas and Kurkara-usa is not less than 53 miles, likewise testifies to the fact that here we have before us a mountain chain of the first class. On Klaproth's map, based on Chinese information, we also find but the one name, Kushetu-Daban (pass) at the sources of the Khargos, where lie, without doubt, snow-fields or glacial seas. But even there, apparently, there exists no constant communication across the mountains; for the Chinese at Kulja and Kurkara-Usu keep up their connection with Karashahar by way of Urumchi, and not across this range.

¹ This is due to want of width, not want of height. (*See page 388.*) Small streams are numerous.

² Otherwise "Bagrach-Kul."—(*Author.*)

The south-western prolongation of Katun-Daba as far as the group of the Eshik-Bashi, *i.e.*, the Narat-Daba, is now known with some degree of exactitude. We are aware of the existence of the three passes—Narat, Dagit, and Kok-Bel-Su—which lead from the basin of the Yulduz to the basin of the Ili. These passes lie between mountains covered with snow, although they themselves are sometimes free from it. In approaching from the north the Kok-Bel-Su pass, which lies between the peaks of Kok-Su and Burun-Yulduz, it is necessary to cross one of the spurs of the Narat-Daba by the difficult and rocky Babruk pass.

With regard to the Tian-shan, between the meridians of Urumchi and Eshik-Bashi (north of Kuchar), although all the heights composing it are covered with snow, still they are apparently lower than those of the Katun-Daba. The River Kaitu-Gol¹ makes a narrow gorge for itself through them, 40 miles from Fort Karashahar. To the west of this point the construction of the mountains presents this peculiarity, that, subsidiary to the main axis of the range, a chain of sedimentary formation is formed, similar to the Black Mountains of the Caucasian range. And therefore between it and the main pile there is a longitudinal mountain road, similar to that which we see in trans-Kubania, between the stations of upper Nicholayef and Dakhof. At present there is only one known lateral road, from Kucha to the north-east of the basin of the Yulduz; but there are, of course, bridle-paths leading from the Yulduz to Karashahar. At least on Klaproth's chart there are the mountains of Ulan-Daban and Khabsigai-Daban, the very names of which (*daban* meaning "a pass") testify to the existence of mountain passes. The basins of the Yulduz and Borotu without doubt lie high above the level of the sea, from 6,000 to 7,000 feet; for along the bed of these rivers, especially of the Yulduz, the soil is so humid as to be marshy even in the middle of the summer season. The general surface of these water basins, which are generally visited by the Kalmaks in their wanderings, covers 650 square miles, or an area twice as large as that of the basin of the Issik-Kul.

This system terminates that vast depression which stretches to the south of the Tarbagatai, and in the midst of which are situated Lakes Ala-Kul, Sasik-Kul, and Balkhash, the remains of a once vast sea, and even now connected by a wide belt of sands and marshes, parts of which are inundated by the spring floods. (*See page 332.*) The main range of this system corresponds nearly with the 45th parallel of latitude; and here we see snow-clad peaks for a distance of more than 133 miles, and yet but a very limited number of passes. To the west the same range falls almost at once at the picket of Ak-Ichke, whence there are only some low hills that soon mingle with the plain. To the east a like phenomenon occurs, forming the boundary of Kaptagai, except that here the contrast is more striking. Between the points named there

¹ Otherwise "Khadik."—(*Author.*) (*See page 478.*)

is an interval of 200 miles, and in this we have the more or less accessible passes of Tentek and Lepsa. Such a peculiarity of surface makes an excellent state boundary for Central Asia; and the abundant water-supply on the plains to the north admits of the possibility of maintaining on the limits of this frontier line a large settled population and great numbers of armed men. Yet the organisation of the Jungar Ala-Tau is not so simple as to make it possible to apply one name to the whole of this state border. In its western half, wherein are the sources of the Kok-Su and Sarkan, there begin to detach themselves slightly divergent, but still almost parallel, branches, which, for the most part, are of high altitude and difficult of access. These branches as they appear on the map somewhat put us in mind of a five-pronged fork, between the prongs of which the Rivers Kara-Tal, Bija, Kok-Su, Satali, and Kugali take their rise—all of which afterwards unite in one bed. The most southern and the longest of these branches is the Kungri-Tau range, Chulak-Tau, Alaman-Tau, or Altin-Imel-Tau, of an altitude of 6,000 feet and extending almost as far as the River Ili.

Across this range passes the main postal road from Vernei to Kulja. This leaves the Vernei-Sergiopol tract to Ili. at the station of Altin-Imel, and turns sharply towards the east. At $8\frac{1}{2}$ miles from the station just mentioned the road enters a gorge, whence there is a descent from the Kungri-Tau range. The length of the gorge is 4 miles. It is called Yakshi-Altin-Imel. Its sharp descent is very majestic. The road passes through clefts in the rocks, and these hang overhead in a threatening manner. At times the cliffs recede, and then in front there opens out a vast plateau shut in on the south side by the central course of the Ili. The gorge in question has been adapted for carriages. Frequently, however, during the winter it is blocked for three months at a time. It is called Yakshi (or good) Altin-Imel, to distinguish it from the Yaman (or bad) Altin-Imel gorge, which lies parallel to it on a lower portion of the range. The latter is considered more difficult of access, and it is therefore called "bad." (*See pages 364, 599.*)

At the sources of the Kok-Su, in addition to the approach of the western branches of the Jungar Ala-Tau to the main chain, the long mountain chain of the Boro-Khoro, the Iren-Habirgan, or rather the Talki range, also approaches it from the east. This range has no snow-clad peaks, although on some of its heights snow lies till June. East of the Talki pass, and especially near the sources of the River Kash, the snow-line is crossed.

The Boro-Khoro range intersects the Jungar Ala-Tau at a sharp angle. Inside this angle, on a high plateau (more than 7,000 feet above the sea), lies Lake Sairam, on the southern shore of which is situated the Talki pass. The main postal road from Peking to Kulja crosses this pass. In order to follow this road from Kulja, one has to get as far as Suidun, 27 miles to the west, and then to turn northwards across the steppe. From Suidun to the

entrance of the Talki gorge is about 23 miles. Eight miles before reaching the mouth of the same, a small sandy ridge has to be crossed. The length of the gorge is $17\frac{3}{4}$ miles. At the bottom of it whirls, amidst roar and foam, the Talki stream, which shows how considerable is the fall from the gorge to the country below, although to the traveller the ascent may not appear a very sharp one. Along the great Chinese "Imperial" road, it runs the great Chinese "Imperial" road from Kulja to Urumchi, and so on to Peking.

This road was completely broken up¹ and most of the bridges over the Talki ruined by the rebels, and consequently in most cases the stream had to be crossed at the fords. How to cross over such bridges as remained was of itself a puzzle, whilst fording is just as disagreeable. During the season of full water in midsummer the Talki is deep; besides which, it flows over large boulders, over which a horse slips and stumbles. The cold bath a person would receive who ventured to swim across the stream would not be so intimidating as the danger of being altogether carried away by the raging current.

The road in some places passes over steep declivities, and in others over cornices which hang over precipitous cliffs. But the cornices are very wide, and their outer edges are carefully bordered with a barrier of stones heaped up. Along this road, at certain distances from each other, are preserved the ruins of the Chinese pickets or military posts. The aspect of this gorge at each step into its depths becomes wilder and grander. The grey and red piles of rock that frequently hang overhead have very fantastic shapes. The rocky edges of the mountains forming the sides of the gorge, as also the detached cliffs about it, are covered with vegetation. On the lower slopes of these crags grow trees peculiar to a warm climate, such as apricot, dwarf elm, and the apple; higher up we find the hawthorn, the mountain ash, and the willow; then appears the birch; and last of all there is a wide belt of the red fir.

After passing over 17 miles of the gorge, the ascent of the pass begins. The views which are here presented to the eye are more terrible and majestic in character.

At every step the ascent becomes steeper and steeper. Passing from a thick belt of firs, the road rises up to a bare rocky slope. The ascent to this is not, however, particularly sharp. Having got up to the crest, a majestic and peaceful lake is at once presented to view. This is held in its mountain basin as water is held in a cup. Its clear and transparent water seems as though it were a fused mass of glass, softly reflecting the azure blue of the heaven above.

This lake is said to be very deep. The Chinese called it *Seri-Ob-Nor*, or the abundance of water. Its water is slightly brackish. It, like the greater number of mountain lakes, contains no fish. Its bed is of a firm, coarse sand; its shores are flat. The country around it stretches for 40 miles.² To the east of the Talki gorge there is

The Chinese *Seri-Ob-Nor* or mountain lake in the *Boro-Khoro* range.

¹ See page 364; the road is now open.—*M. S. B.*

² The natives have a superstitious dread regarding this lake. They relate how its waters become disturbed in the absence of all wind, and that this movement is effected by the evil spirits which inhabit it. The Englishman Dilke, who travelled through Semirechia in 1873, has told us that he saw therein small shell-fish. However, neither I nor others who have visited this lake have found anything of the kind.—(*Author.*)

another pass in the Boro-Khoro range,—that of the Boro-Gosun, along which lies a bridle-path from Kuldja to the village of Shibo, 6½ miles distant from the ruins of the town of Kur-kara-usu.

Bridle-path from Kuldja to the village of Shibo.

Inside the angle formed by the above two passes lies the valley of the River Borotala, which at its source is a mountain stream fringed with grasses, and even wood-growth, and then becomes a steppe river with marshy banks. This valley joins the steppe country around the salt lake of Ebi-Nor or Kara-Tal. Across it lies the caravan and military road

Borotala valley.

from Kulja to Chuguchak. This, after passing by the eastern branches of the Jungar Ala-Tau and the Kaptagai defile, skirts the frontier formed by the rivers of the Ala-Kul basin and the mountains adjacent to them.

Caravan or military road from Kulja to Chuguchak.

The Kaptagai defile is famous in Central Asia on account of the violent hurricanes which at times rage therein. Its position at the exit from the mountains to the wide plateau of Ala-Kul sufficiently accounts for the origin of these hurricanes, which are produced by currents of cold air descending into the heated hollows through the one confined passage from the mountains. Similar phenomena occur in many other localities in Semirechia—as, for example, the neighbourhood of Kastek. There, however, they are not so strong as in the Kaptagai gorge, where they raise into the air coarse sand and even small stones.¹ This

Kaptagai defile.

Importance of this defile.

gorge, which is important as being the gate to the nearest northern road to Kulja, is in winter covered with deep snow.

Beyond it, to the east, begin the Barluk and Orkhochuk mountains, which, to a certain extent, may be considered the eastern prolongation of the Jungar Ala-Tau. They are, however, of less altitude than the latter range. Their topography, even up to recent times, was but little known; but it was considerably illustrated after the survey made in 1871 by Matusof, who went along the postal road from Chuguchak to Urumchi. This survey has shown us that the Barluk mountains evidently

Barluk or Orkhochuk mountains.

Post-road from Chuguchak to Urumchi.

Chir pass.

consist of a series of parallel chains, through which flow northwards rivers that have made for themselves several gorges, and also some longitudinal valleys. The highest point of this system lies on the Urumchi road, *viz.*, the Chir pass. It is very flat; its height is 5,945 feet above the sea. This shows that the average height of the chain is not less than 6,000 feet. From here northwards there is a descent, *viâ* Yamati (4,654 feet), to Sari-Kulsun (2,072 feet), where the Yamati passes through its last cleft before issuing forth to the wide plateau of Emil. If we

Emil plateau.

take into consideration the fact that at the southern slope of the Barluk mountains the village of Olon-Bulak

¹ The prevailing wind in the Kaptagai defile is north-westerly. It is called by the natives *saikan*. Sometimes, however, there blows a wind not less strong from the opposite direction (south-east). This, the *ebi*, lasts longer than does the *saikan*.—(Author.)

Violent winds obtain on the line Hami-Toksun and Umiotza-Toksun.—*M. S. B.*

lies at 2,219 feet, we shall easily perceive that the altitude of both slopes of the Barluk system is the same, the northern side being less precipitous than the southern.

South of the Ili, numerous ramifications of the Tian-shan system are traversed. The most eastern of these, that

Uzun-Tau range.

which fills the space between the Ili and the Tekes, bears the general name of Uzun-Tau ("the Long Mountains"). The upper Narin separates this range from the trans-Ili Ala-Tau. The western portion of the Uzun-Tau is called in turn the Temurlik,

Other names given to the above range.

Ketmen, Ak-Bur-Tash, and lastly, where it adjoins the lower Tekes, the Kara-Tag. Although the Kara-Tag does not reach the height of perpetual snow, still its system is sufficiently high to make progress difficult over those passes which have not been worked at. The most noticeable of these are

Passes.

the Ketmen, Suashu, Khanakhai, Chapchal, and Sharbo-Guchi. The last of these lies at the eastern end of the range near the natural boundary of Toguz-Toran. It may be considered the easiest and most practicable. Along it passed the *telegas* of Colonel Kostenko, laden with provisions from Kulja to the old Muzart fort. The inconvenience about this road is that it is too circuitous. The most direct road from Kuldja to the Tekes valley passes through the Chapchai gorge and over the pass of the same name. These, as their convenience becomes manifest, will probably be adapted for wheeled traffic.

The northern slope of the Uzun-Tau descends in three terraces to the River Ili. These form the left side of the valley of this river. The southern slope of the same mountains separates into several branches, which lose themselves in the flat plateau that forms the right side of the valley of the Tekes.

The gorges of the Uzun-Tau range abound in fir forests, and in the more low-lying slopes of these mountains the mountain ash, maple, and willow are met with. There are, too, several sorts of bush jungle. Amongst other wild animals there are large herds of *maral* (stag) in the forests. These *marals* are found in almost all the mountains and ramifications of the Tian-shan. They are the favourite prey of the natives, who hunt them for their horns.

The natives, too, tell us that during the summer wild pigs and tigers come to the mountains from their reed haunts on the cis-Tekes. Of reptiles, numerous snakes are met with, which injure the cattle. The mountain valleys are clothed with splendid grass that is preserved from being parched by the sun throughout the summer, and therefore the Kirgiz nomads find that the locality furnishes abundant pasturage for their flocks and herds. The settled inhabitants, who dwell in the country north of the same range and on its terraces and along the valley of the Ili, likewise send their horses to the mountains during the summer to regain condition; and certainly animals, tired and lean and jaded with their winter work, get so fat in these vast grazing grounds as to become unrecognisable. Along the

Kara-Tau mountains.

southern bank of the Chalkodi-su there stretch the Kara-Tau mountains, which also are not

snow-clad, but have an abundant rainfall. Here, therefore, there is more fine pasturage that attracts nomads in large numbers.

To the south of the Tekes stands a majestic range, known under the name of the Muz-Tag. This is one of the most lofty portions of the Tian-shan upheaval. Its peaks are blocked with vast glaciers, whence the range has derived its name, the word *Muz-Tag*¹ in Turki signifying the "ice range." Across it lies the shortest road from Kuldja to the town of Aksu, the second capital of Kashgaria or eastern Turkistán. (See page 512.) The gorge and pass along which this road goes are called after the range, the Muzart, or "ice crest."

According to native statements and to the description of the Chinese geographer of the last century, the Muzart pass is depicted as something so frightful, that it might at once be relegated to the province of those myths which are engendered by the lively imaginations of the East. Thus the Chinese geographer relates, amongst other things, how in this defile there is a huge mountain of ice, in which it is necessary to cut steps in order to be able to advance, and then only with difficulty. Of Europeans, no one has traversed the Muzart pass from end to end. Captain (now General) Shepelef, of the General Staff, explored half of it in 1871. He made a survey and wrote a topographical account of the gorge. In 1872 the author succeeded in making his way to the centre of it, *i.e.*, as far as Mazar-Bash, the former Kashgarian picket, which lay on the southern slope of the mountain near a perpendicular ice descent, on which certainly steps had to be hewn.

The Muzart gorge is formed by the action of two swift streams, which flow from the summit of the pass in various directions. The one which flows along the northern slope is called Urten-Muzart, *i.e.*, "Picket Muzart," from the Chinese pickets that once were posted on it. The Urten-Muzart takes its rise 33 miles from the exit from the gorge in a glacier that lies near the crest of the pass. The milky waters of this stream whirl in a foaming torrent along a bed strewn with large boulders. Some of these the course of the river avoids, others it leaps over, and the smaller ones it bears down with it. Having descended from the crest, the Urten-Muzart soon divides into numerous branches, which, however, again unite in one bed, that flows along the right side of the gorge.

The Muzart gorge at first bears south-east, and then at the point where two streams of the Maralti enter the Urten-Muzart from either side it turns south-south-east, and so continues to the point where the latter stream is joined by the Archali-Karachat. Throughout the whole of this extent (27 miles) the character of the gorge is different to the latter half, which leads to the pass and beyond.

¹ Properly *Bus-Tag*.

In the first half no serious obstacle bars progress, either in summer or winter. It might even be adapted for wheeled traffic. It is unusually picturesque, and at each step new views strike the eye.

At first the gorge is wide, and the rocky mountains bordering it are not very high, whilst they have a small growth of trees. At 2 $\frac{3}{4}$ miles from the entrance,

Lesser Muzart.

where the large stream, the Lesser Muzart, enters the Urten-Muzart from the south, traces of a Chinese redoubt are preserved. By the side of this at some time or another has been set up a huge vertical granite rock with an inscription, the unknown letters of which testify to its great antiquity. Here, too, we find one other peculiarity of the Muzart pass that is worthy of observation, *viz.*, a small birch grove, which is sheltered on a low bank at the junction of the Urten-Muzart and the Lesser Muzart. The trees of this grove in no way resemble the Russian birch. They are more slender and pliant, though very tall, and they have cinnamon-coloured bark, with fine leaves and but few branches. Throughout the whole extent of the forest belt of the gorge the birch tree is but seldom met with, either as a stunted growth or as a separate tree.

From the birch grove above spoken of the pass assumes an aspect more and more picturesque. The rocky surface of the right side is thickly fringed with firs, whilst that on the left is almost devoid of vegetation. On this side it only springs up in the small lateral clefts or cavities.

The tree most frequently met with in this gorge is the silver fir. This well-shaped and tall tree, however steep be the slope on which it grows, always raises its head vertically, and only at the very base of its trunk is any bend at all noticeable. It would seem that here a strife, so to speak, takes place between the internal force of the growth which would thrust out the tree at right angles to the soil whence it springs and the force of heat and light that would draw it upwards as straight as though directed with a plumb-line. The leaves of this Muzart fir, like those of the Central Asian species, are generally short and soft. They grow thickly on the twig, and this hangs downwards with the weight. Downwards, too, droop the violet-coloured cones as they hang from their long stems.

In the Muzart forests, besides firs and birch trees, the mountain ash only is noticed. This is very like the Russian species. Of the larger bushes, which in some cases resemble trees in size, the meadow-sweet and hawthorn are met with. The *tuya-kuiruk*¹ (or "camel's-tail"), too, is widely distributed, and it is in great abundance in the higher parts of the forest belt—a sign of the speedy termination of trees and the larger sorts of vegetation. Lower down this *tuya-kuiruk* is found, with a stem 14 feet high and 2 inches thick, its upper part being thickly covered with leaves and thorns. Of other species of bush, the wild currant, barberry, and common juniper grow in profusion.

The various species of grasses are more numerous in the Muzart pass than the varieties of trees and bushes, so that the glades met

¹ Probably *Dava-kuiruk*.

with are enamelled with the most varied field and meadow flowers, presenting the appearance of a carpet of the most luxuriant vegetation.

In the Muzart forests there are numbers of wild goats (*maral*), mountain sheep with large horns (*arkhara*), wolves, hares, dark-brown foxes, and martens. There are likewise bears, lynxes, wild pigs, and panthers from the jungle and reeds of the cis-Tekes tract. Indeed, the wild animals of the Muz-Tag are so numerous that the slopes of its mountains are marked with a perfect network of their tracks.

Of birds, amongst others, there are griffins, eagles, *berkuts*, and kites. It is remarkable that the traces of man in this pass are fewer than those of birds and wild beasts. Besides the stones and *débris* of the redoubt, of which we have spoken above, there are also the

Chinese picket of Udungei. ruins of the small Chinese picket Udungei, in appearance like a Russian wooden *izba* (hut), and three or four bridges that have been repaired by the Russians. Especially interesting are two timber bridges, 4 miles from the entrance to the gorge, thrown across projections in the cliffs and hanging over a yawning precipice deep down, at the very bottom

Muzart river. of which roars the raging Muzart river. Those natives who come to the pass come principally to hunt the *maral*. In winter and autumn caravans of horses pass through it from Kulja on their way to Aksu and Kashgar, but not back again, for reasons that will be explained further on.

The road in summer along the gorge under description presents much that is attractive. It first goes for a considerable distance along the left bank of the Muzart, winding picturesquely, now along narrow cornices on slopes of the mountains, now along meadows carpeted with flowers, now through clumps of firs resounding with the chirping of birds, or perhaps over extensive plateaux where open out unusually picturesque and distant panoramas. Such a spectacle is presented, amongst other places, in the middle of the route, near the entrance of the Tosti into the Urten-Muzart. Here the valley of the latter river widens to $\frac{3}{4}$ mile. Before the eyes of the traveller stands the huge outline of the Tian-shan, with its gigantic peaks thickly crusted with snow.

Throughout the whole extent of the route now before us there is only one, and that comparatively small, inconvenience which the traveller has to undergo. This proceeds from the large and small stones which now and then obstruct the road, amidst which a horse must pick its steps with great care. Amongst the various kinds of rocks marble is met with, huge blocks of which stand up erect like memorials not made with hands.

Twenty miles from the entrance to the gorge the Urten-Muzart has to be crossed at a ford, and the right bank of this river followed. Beyond the mouth of the Tosti the gorge opens out still more, and here reaches from 1 to $1\frac{1}{2}$ miles in width. The ascent becomes more precipitous, and the vegetation grows less. Firs appear less frequently; but in consequence of the change in the direction of the gorge to the south, they

grow equally on either slope of the mountains. The bushes of *tuyakuiruk* become smaller, their height being confined to $2\frac{1}{2}$ feet. The road now follows for $4\frac{3}{4}$ miles a flat foreland of the eastern slope, which bears the name of Khan-Yailagh. It is so called because formerly Chinese cattle were here pastured, *yailagh* signifying in Kirgiz "a summer pasturage;" and certainly it would be difficult to imagine a more abundant grazing ground than this locality affords.

Where the Archali falls into the Urten-Muzart the gorge penetrates the main mass of the Tian-shan, and further on it turns to the west and assumes another character. The forest reign comes to an end and gives place to that of glaciers.

Before arriving at the bend in the gorge just spoken of, the river has again to be crossed; and from here right up to the very end of the gorge the road follows now the right and now the left bank of the Urten-Muzart.

After turning towards the west, the gorge presents the appearance of an elevated valley or oblong basin, $3\frac{1}{4}$ miles long and $\frac{3}{4}$ mile wide, bounded on the north by a steep and rocky declivity of the snowy range, which seems as though it were a fragment of the main chain, which, in its turn, shuts in the basin on the south. Into this basin five arms of a glacier fall from three sides. The first and largest of these comes from the east, and proceeds from several sources. It shuts in the hollow on that side, and takes up its bed for a distance of at least $\frac{3}{4}$ mile. The main branch of this glacier, after descending from the heights above, turns towards the north and

Source of the Archali,
an affluent of the Urten-
Muzart.

gives rise to the raging Archali, an affluent of the Urten-Muzart. The tributary stream, about 120 yards from its source, disappears through the glacier as through a tunnel. The moraine which protrudes on the glacier towards the north is so old as to be covered with alluvial soil and a growth of firs. The further progress of this moraine is towards the west. The second glacier lies north and south. Its surface is comparatively small, as it only descends to about the middle of the slope. The *débris* and fragments of rock pushed down by it reach, however, to the edge of the basin. The third glacier likewise moves from north to south; but it descends much lower down than the second one, and the rubbish and rocks in front of it narrow the basin by several feet. The western portion of the steep slopes of the mountains in this locality has been formed by broken rocks pushed down as the glacier has moved onwards. These in the course of ages have been covered with alluvial soil, from which have sprung small clumps of fir trees. Here, then, is the, so to speak, advanced point of forest growth in the Muzart gorge; for beyond it neither trees nor even bushes are to be seen. In this locality at the very hottest time of the year the nights are cold and the mornings frosty.

The fourth glacier descends into the valley which we are describing, by a narrow cleft, along which there is a road. This, however, again suddenly changes its direction to the south. The fifth glacier moves from the west, shutting in the valley on that side, close to where the Tura-Su falls into the Urten-Muzart. Thus these five glaciers, which are advancing

Tura-Su stream,

from the main range towards one point, promise in time to fill up the valley and form one large ice basin or sea, like that which has already been formed on the reverse side of the principal chain.

After traversing the valley just described, the road, as has been said, turns sharply to the south, and follows a pass of the main range. From this bend up to the highest point the distance is reckoned to be $3\frac{1}{2}$ miles. The road now becomes very difficult. On ascending, it lies over precipitous crags blocked up with stones, between which the horse must pick its way with great caution, now over glaciers through which streams descend with a deafening noise, or perhaps no track at all exists and progress has to be made over the almost perpendicular sides of the moraine. Here it is necessary to advance on foot, or rather to creep along and cling with hands and feet to the sharply projecting stones, pieces of which become detached and clatter down into the raging Muzart, which takes its rise below. On both sides of this gorge tower gigantic cliffs, in the form of sharp-pointed vertical peaks or majestic bluffs, over which cascades fall into the depths below. Avalanches of snow hang overhead, threatening to give way and fill up the entire gorge. From time to time fragments of the cliffs detach themselves and roll down with a crash, striking the hard sides of the crags ere they pass into the deep abyss. From the foot of the pass the reign of chaos and disorder begins.

During the short summer, vegetation appears in the form of rank grass and a few kinds of flowers, amongst which violets occupy the first place.

The road is strewn with the bones of animals that have succumbed through weakness or want of food. During the summer, animals make their way over the pass a little better than in autumn or winter, when the snow fills up the interstices between the stones. At such a time a horse is likely to fall and wrench off its hoofs. The ravens and the kites, that rend the air with their ominous cries, are alone at ease in this kingdom of chaos and horror.

The crest of the pass is saddle-shaped and about $\frac{1}{2}$ mile in length, slightly sloping towards the south and bounded on both sides by towering crags and peaks. During Colonel Kostenko's stay here a strong wind was blowing from the south. The stagnant water in the hollows, notwithstanding that it was the hot season of the year (middle of July), was frozen over; but about 11 o'clock in the forenoon the ice began to melt.

From the summit of the pass, 11,000 feet above the sea, a view opens out of the gigantic peaks of the Tianshan that hem in the southern slope of the Muzart gorge on both sides. Especially grand is the mountain on the left. It has the form of an elongated cupola, and seems as though it were hewn out of pure white marble.

From the crest the road proceeds, having now the cliffs sometimes on the right and sometimes on the left. Between them lies a hollow with a perfectly flat bed, along which in summer streams trickle towards the south. On ascending a slight eminence, 2 miles from

the highest point of the pass, a view appears of the *mer de glace* that lies across the road.

This sea of ice is confined between the main peaks of the Tian-shan and its branches, stretching towards the south. The basin thus formed is supplied from all sides. At its head this glacial sea lies east and west, and is about 4 miles in length. It then turns at almost a right angle to the south, and stretches for $5\frac{1}{2}$ miles in that direction. Its width throughout is from 1 to $1\frac{1}{2}$ miles. The basin of this sea of ice appears as though it had been formed by the action of some frightful earthquake. Enormous ice waves and piles of *débris* and broken rocks, lying in the most varied positions, present a picture of terrible disorder. At first these waves and heaps are strewn with rubbish of a smaller kind, which is overgrown with grass, wherein lurk myriads of spiders, black and grey, and small ants. Occasionally the inevitable fly appears, or perhaps a bird, as it flits across in search of food in this uninviting spot.

In places the heaps of ice are free of fallen stones; their tops then glitter in the sun. Deep down in the layers of the ice flow streams, which are lost to sight. Here and there the ice is cracked and broken up into *crevasses*, or ice wells, the bottom of which cannot be seen. To approach these is very dangerous, because one false step entails a fall into a dark abyss. By turning and twisting from bed to bed, or jumping from rock to rock, these *crevasses* can be avoided, and thus we reach a lake of melted ice lying on the summit of a hill.

The further we advance, the less we find of *débris* and rocks, and the cleaner and clearer is the ice. At the same time the road becomes more difficult. You slip and fall and bruise yourself, at times very seriously. But here the view becomes more interesting and striking. The pinnacles of ice are from 500 to 600 feet in height. Huge rocks, rent from the cliffs above, lie at various slopes on pedestals of ice, presenting the appearance of tables or exaggerated mushrooms. Or, perhaps, a corridor of ice is entered with overhanging walls.

In autumn and in winter the picture presented by this glacial sea is still more effective and amazing. The channels and the lakes are frozen, and the newly-formed crystals of ice take the most fantastic shapes. The ice grotto, *crevasses*, and pits are veiled with snow as with a fringe. Inside are ice pillars, built as though they were meant to receive statues. The waters in these places are frozen so hard that it is impossible to break their ice covering, and at each blow there is a metallic ring. At times beneath this sea subterranean sounds are heard. These proceed from the bursting of the lower strata of the ice. Such sounds alternate with the crash of falling rocks or the dull roar of avalanches of snow, which fall to pieces like scattering shells. During the author's stay on this *mer de glace*, from 12 noon to 4 P.M., the heat was very great, as the sun shone forth unmercifully. All at once the sky was overcast and a cold, autumnal rawness became apparent in the air, and soon there began to fall granular snow, similar to that which falls in Russia in the autumn. At 5 o'clock all was again quiet. It may generally be noticed

that in the mountains of Central Asia during the summer months the fall of atmospheric moisture is thus distributed. On heights from 4,000 to 5,000 feet rain falls almost daily from 4 to 7 P.M. and seldom in the morning or at night. On heights from 5,000 to 8,000 feet rain alternates with snow, which quickly melts. Above 9,000 feet there is no rain, and the snow which falls instead also quickly disappears.

When the Muzart *mer de glace* may be more practicable for exploration, it is difficult to say. Undoubtedly it is possible to traverse it at all times of the year, if on foot and lightly equipped, but not so with horses, still less with pack-animals of any kind. Judging from the fact that natives with caravans prefer to travel on this sea of ice during autumn or winter, it may be gathered that these seasons of the year are more favourable for progress, although, of course, a margin must be allowed for loss of animals at either season, since many are killed either by slipping into the *crevasses* or falling on sharp stones. Hence it is that this sea of ice and also the pass are covered with the bones and skeletons of animals. (See page 509.)

Eight miles from the Muzart pass at the small picket of Mazar-Bash ("the tomb's-head") the left edge of the *mer de glace* is broken off almost vertically, showing a surface of from 40 to 50 feet high. In this ice wall steps have been cut. In going towards Aksu, both men and horses ascend these steps with the aid of ropes. In the same way, too, the men and the provisions for the above-mentioned picket are taken up. But so difficult is it to get horses up, even with the aid of ropes, that caravans never return that way from Aksu to Kuldja. For the same reason, the thirty men forming the garrison of the picket are all foot soldiers. Provisions and fuel are furnished to

them from the neighbouring picket, Tamgha-Tash picket. Tash ("the stone seal"). The various articles are placed at the foot of the descent, whence they are drawn up by means of ropes.

No European has ever gone beyond the Mazar-Bash picket, and therefore information regarding the onward route by the pass to Aksu is based on inquiry from the natives. From what they say, the gigantic glacier grows narrower and comes to an end 2 miles from the broken edge above described. The road then follows a gorge along the River Muzart-Nin-Su, which takes its rise from

Muzart-Nin-Su river. another glacier, and flows in a south-easterly direction into the heart of Kashgarian territory. This road is only difficult in parts, because of the large fragments of rock lying across it that have become detached from the mountains.

From the Muzart crest to the exit from this gorge, the natives say, the distance is about 100 miles; and from the same point to the town of Aksu, 133 miles.

Thus the southern end of the gorge is about three times as long as the northern, the length of which is only 33 miles. The latter consequently must be of a considerably less slope. The entire length of the Muzart or Muz-Tag gorge, if we reckon its sinuosities, will be approximately 100 miles. (See page 423.)

From the sources of the Sariasi river the Muz-Tag chain¹ changes its original direction,¹ and bends like a bow to the south. It is here called the Sariasi, from the river of that name which accompanies it through the Janart gorge. Throughout this extent the range preserves the character of its eastern part, except that it is somewhat lower. The united rivers Sariasi, Ir-Tash, and Ishtik find their way through the Sirt country to the plains of eastern Turkistán by piercing the Janart gorge, which separates the range of the Sariasi from that of the Kok-Shal. Neither the Janart gorge nor the Sariasi has been as yet much explored.

The range to the west of the Janart gorge receives, as has just been said, the name of the Kok-Shal. From this gorge the northern spurs of the Kok-Shal range rest partly on the gorge made by the River Ishtik, and partly on the valley of the Sari-Garm. This part of the Kok-Shal has several peaks. The largest of these is called Petrof. It lies between the Kaiche and Kukurtuk passes. The range itself, as well as its peaks, is covered with perpetual snow, and the view of this portion of it from the valley of the Sari-Garm, and especially from the Ishigart pass, is most picturesque.

From the valley of the Ishtik three roads go southwards across the Kok-Shal. The passes corresponding to them from east to west are the following—Kaiche, Kukurtuk, and Bedal. (*See page 424.*) The two first of these are difficult, but the last is very easy. Generally speaking, the northern slope of the Kok-Shal descends sharply into the valleys at its base. This fact is especially noticeable in the case of the valley of the Ishtik, where in one place the cliffs approach so close to the bed of the river as to form the so-called "Ishtik gates." The southern slope of the same range has not been explored at all.

The same remark applies to the upper course of the Ishtik river and to the ranges in its neighbourhood. There is, however, no reason to doubt that in the neighbourhood of the Catherine mountains, which rise above the northern slope of the Borkoldai range, there is a mountain group, and that the Kok-Shal chain detaches itself from this by two branches, the first inclining to the south and preserving its name, Kok-Shal; the second, under the name of the Borkoldai-Tau, almost continuing its original direction, with a slight turn towards the north. Both branches are covered with perpetual snow, but the southern is much the higher of the two. The branch which preserves the name of Kok-Shal shuts in the valley of the Mudurun on the south, and is very noticeable on account of its height, its crags being covered with perpetual snow and its gorges containing glaciers. The tendency of the mountains to fall towards the west is in this part very remarkable.

¹ This range, as well as those adjacent to it, lies to the south of the Issik-Kul, and was more or less explored by M. Kaulbars in 1869; see "Materials for the Geography of the Tian-shan," pp. 18 to 67: St. Petersburg, 1875.—(*Author.*)

Kostenko then goes on to describe in detail: Road from the Mudurun into the Ak-Sai valley; Borkoldai range; Catherine peak; At-Bash-Tau range; Balik-Su river; Kechige-Bell pass; mountains to the south of the River Ak-Sai; Kurpe-Tau group; road to Kashgar; Kok-kia range; Nicholayef mountains; mountain lake Kul-Duk (Yashil-Kul); Kara-Kulja-Tau; Narin-Tau range; Ulan pass; Kara-Kamana gorge; At-Bash gorge; Char-Karitma pass; Kojun-Kur pass; Koshoi-Tau pass; passes; system of the Yaman-Tau (Evil Hills); Bebiche-Tau and Kalkagar-Tau passes; Ak-Shiriak-Tau (western range); Kabak-Tau mountains; beds of salt rock; Kargalik and Air-Tash gorges; Mak-Mal-Tau range; Tura-Bel (Uras-Khol) pass; Manakeldi pass; deposits of rock-salt; Ak-Teke mountains; Fergana range; Jagalma peak; Kara-Bel-Suiok pass; Arpa gorge; Urtuk-Tau ridge; Sari-Tash pass; Turu-Bel pass; Kok-Irim-Tau spur; Kazik-Bel and the Kara-Gir passes; Kara-Su gorge; Kochkur-Tube chain; Yurker-Bel pass; Ike-Su-Arasi peninsula; passes; mountains to the north of the River Narin; the Terskei-Tau range; Alexandrof peak; Juka pass; Kuilu-Tau range; Kuilu pass; Keregetash-Tau spur and pass; Konurlen pass; Tosor and Ton passes; Kara-Kaman-Tau; Ula-Khol pass; road connecting the valleys of the Kochkur and Ula-Khol; Semis-Bel pass; Kulja-Buta-Sangan-Tau spur; Juvan-Arik river; Ak-Shiriak-Tau (Eastern range); Yak-Tash valley; Kara-Sai valley; Kuian-Su; Air-Tash-Tau group; Ishihart pass; Ak-Bel pass; Sari-Garm valley; Ishtik-Tau chain; Jitim-Tau range; passes; Nura-Tau range; Kok-Torpel river; Son-Kul plateau; Dolon pass; Tuluk-Bel pass; Mulda-Tau mountains; Kojjerti river; Kok-Bulak river; Kalemchek river; Shil-Bel pass; Baural-Bas-Tau; Kap ravine; road across the Son-Kul-Tau range over the Mulda-Ashu pass to the valley of the Narin; Donguz-Tau range; Kabak-Tau range; mountains to the south of the Karakol river (basins of the Kockhur and Susamir); Karakol pass; Susamir valley; Jui-jurek river; Kochkur river; roads to the Susamir; Kizart pass; mountains between the rivers Nirin and Talas (the Susamir); rock-salt deposits; Bish-Imchik mountains; Terek pass; Bish-Tash valley; Talas valley; Ut-Mek pass; Jungal defile; Trans-Ili Ala-Tau; Tasma range; San-Tash plateau; road from Muzart to Karakol; Kizil-Kufa pass; Alexandrof range; Buam defile; Shamsi river; Shamsi pass; Urtak-Tau range; Kara-Tau range; Kara-Burum; Kichkeni-Kara-Tau; Chatkal range; Kurama-Tau (Kendir-Tau); Alai range; passes; Katran range; Gezart-Akart range; Kichi-Alai gorge; snow-line on the Alai; rivers issuing from the Alai; Sokh; Shah-i-Mardan; Isfairam; Kankat; Ak-Bura; Kurshab; Tar; Kura-Kulja; roads across the Alai range; general observations.

As¹ we have stated the most practicable road from the Fergana valley lies along the course of the River Gulcha. (See page 397.)

This road really begins at Osh. At first it goes by the Osh gardens, 2½ miles, and then, as far as the village of Madi (5½ miles),

¹ Compare these routes with those given in Captain Gowan's Translation of Kuropatkin's "Kashgaria," App. I and App. V.—(Trans.) (See page 422.)

along a hilly but well-cultivated country. From the village of Madi the road begins to follow the steppe ($4\frac{3}{4}$ miles) over an elevated locality as far as the Taldik pass. Here it enters a gorge, and follows the pebbly bed of the river as far as the Langar post, $7\frac{1}{2}$ miles. From this post, 20 miles from Osh, the road to Gulcha bifurcates. One branch was converted into a cart-road in the year 1876. The other is not made, but it could easily be adapted for wheeled traffic.

The one branch of the road continues along the upper course of the Taldik, and 13 miles from Langar bends to the east and along the Chigirchik-Bel-Su gorge. It then goes over the Chigirchik-Bel pass (7,700 feet), which lies $2\frac{1}{2}$ miles from the mouth of the Taldik river. From the Chigirchik-Bel pass the road goes down the river, and through a second Chigirchik gorge; and after a distance of 15 miles comes out at the point where the Chigirchik and Gulcha meet, and the spot where Fort Gulcha is situated. Along the road from Osh forage is everywhere procurable. Fuel is to be had in the shape of dried cow-dung; and along both gorges of the Chigirchik there is scrub forest.

Distance between Osh and Gulcha. The distance between Osh and Gulcha along this road is 50 miles.

The other road from Langar crosses the River Taldik by a ford, and turns by the Karvankul gorge to the pass of the same name, which lies 6 miles from Langar. The height of this pass is 7,400 feet. At $1\frac{3}{4}$ miles further on lies a second pass, the Tak pass, (6,800 feet). Four miles beyond this again after passing by Lake Kaplankul (5,600 feet) the road ascends a third pass, the Kaplankul (7,000 feet). From the lake to the pass of the same name the distance is 7 miles.

Lake Kaplankul. From the Kaplankul pass a path descends into the Karogan-Sai gorge, 2 miles, and then comes into the valley of the Kurshab, along which it goes for $2\frac{3}{4}$ miles as far as Fort Gulcha. The passes along this route, although they are steep, admit of the progress of pack-animals. From Osh to Gulcha by this route is reckoned to be 43 miles.

From Fort Gulcha the road goes up the river of the same name along cornices as far as Kizil-Kurgan, 12 miles, and Yangi-Arik, 5 miles. Here it crosses over two hanging bridges, of which the second is over the Belavli, an affluent of the Gulcha. From this point to Sufi-Kurgan, 9 miles, in some points difficult places are met with, either over cornices or balconies; but several miles before Sufi-Kurgan is reached the gorge opens out, and the road, which goes along the bottom of it, is frequently covered with thick and succulent grasses. At $1\frac{1}{2}$ miles from Sufi-Kurgan there are occasional groves of poplars.

From Sufi-Kurgan the roads bifurcate. One goes to the left along the Terek-Su to the Terek Davan pass, and so on by way of Fort Irkishtam to Kashgar. The other continues along the course of the Gulcha, and at 11 miles from Sufi-Kurgan throws out a branch to the Shart pass, the most eastern on the Alai. From the point of bifurcation to Shart is about 17 miles.

Fifteen miles from Sufi-Kurgan at Fort Kizil-Jar the roads again branch. One to the left leads to the Archat pass (12,000 feet), the distance to which is 7 miles;

Archat pass.

and the other turns to the west, and goes *viâ* Forts Uch-Tube and Bossaga to two passes which lie at $1\frac{1}{2}$ miles distance from each other. The more eastern of these and the more sloping is the Koijol-Davan (11,400 feet); the western, the Taldik-Davan (11,500 feet). Along the former it is proposed to construct a cart-road to the Alai.

From both passes roads descend to a second-rate range, by the low Katin-Art pass, 5 miles. Further on a track leads down to the Alai valley by the River Katin-Art-Su, 4 miles.

Thus, the cart-road from the Fergana valley to the Alai from Osh goes as follows:—

Name of place,	No. of miles,
Town of Osh . . . . .	...
Fort Langar	20
„ Gulcha	$29\frac{2}{3}$
„ Kizil-Kurgan	12
„ Yangi-Arik	$5\frac{1}{2}$
„ Sufi-Kurgan	$8\frac{2}{3}$
„ Kizil-Jar	$14\frac{2}{3}$
Koijol-Davan pass	$10\frac{2}{3}$
Katin-Art pass	$5\frac{1}{3}$
Valley of the Alai	4
TOTAL	<hr/> <u>$110\frac{1}{3}$</u> <hr/>

Kostenko then goes on to describe the road from Osh to Ak-Bura over the Sarik-Mogol pass and Zagra pass; Kichi-Alai gorge; Sarik-Mogol pass; distance between Osh and the Alai, *viâ* Sarik-Mogol; road from the Alai to the valley of Fergana by the Jiptik pass; valley of Khoja-kiliat; Altin-kazik mountains; Tor-jilga gorge; road from Uch-kurgan, *viâ* the Tengisbai pass; route taken by the Russian Alai Expedition of 1876; road from Wadil over the Kara-Kazik; height of the Kara-Kazik pass; road from Sokh over the Tarak pass; Tarak pass; shortest road from Karategin to Khokand; Yarkushi; Alai plateau; Bash-Alai; Kizil-Su; tribal division of the Kara-Kirgiz: Mongush; Adigin; Ichkiliki; Namian and Taiti; ruling princes of the Adigin and Mongush tribes of Kara-Kirgiz; Turkistan range; passes; Roma; Wadif; Tro; Yani-Sabak; Yarkut; Kuhdif; Pastigau-metke; Ugut; Oburdan-auchi; Ustanaki-shamtich; Vishab; Shasit; Pahut; Rarz; Ispan; Puthin; Shahrintan; Hishkat; Taumim; Liangar; Nurat mountains; Shaikh-Jeli range; Sultan-Oveis-Karain mountains; Karafshan range; passes; Tavastfin; Revut; Khuzun; Surkhat; Darkh; Minora; Marda-kishtig; Fan pass; Kishut; Maghian; Sangi-Juman; Kara-Tube; Jam; Hisar range; passes; Yarkhich; Piobrut; Wadif; Pakshvif; Novobot; Dehi-Balan; Chukat; Anzob; Khashir; Jijik-Rud; Mura; Pamir plateau; Marco Polo; Son-Yun; Forsyth's Mission to Yarkand; Russian expedition to the Pamir; boundaries of the Pamir; passes.

The north-east border of the Turkistan circle adjoins the Altai system at the point where one of the most western of its branches, the Tarbagatai, forms

a portion of the boundary between the provinces of Semirechia and Semipalata.

This range is separated from the Altai mass by the valleys of the Black Irtish and Zaisan. Its beginning may be considered to be the high ground to the south-east of Sergiopol, and its end, as far as is known, lies in the neighbourhood of Lake Ulungur or Lake Kizil-Bash. Hence the length of this chain may be fixed at 400 miles from west to east. In Russian territory, *i.e.*, west of the Taldi-Ashu pass, there is not one snowy peak, although there are summits with an altitude of 9 200 feet above the sea. The central portion of the chain, between Taldi-Ashu and Chagan-Obo, which serves as the boundary between Russia and China, is snowless. At the south-east end of the Zaisan country, somewhat to the north of the main range, there rise the Muz-Tag mountains, covered with perpetual snow, and in the gorges of which there are small forests, whilst the rest of the range is not wooded. The Muz-Tag and the neighbouring table-land of Chagan-Obo (4,680 feet) to the south of it serve as the group whence take their rise many very copious rivers that flow towards the Zaisan (*viz.*, the Temir-Su, Kinderlik, Ala-Kul (Emil), &c.), or else enter the small lake of Kabuk, which lies to the south, amidst the steppe. But the greater portion of such streams as rise in the slopes of the Tarbagatai have not so much water and are lost in the steppe. This may especially be said to be so with regard to those which issue from the eastern half of the chain called the Sur (Saur), which stretches as far as Lake Ulungur, into which it projects. Along the northern side of this range there are known to be five streams (Ulast) which do not reach the Black Irtish, whilst the southern slope and base of the Sur are perfectly waterless, although traces remain of a channel which was once directed eastward towards Ulungur. In the neighbourhood of this lake on its north-western shore stretches the small rocky chain of the Narinkar, but it apparently is a separate mountain group, divided from the Sur chain by a flat and marshy valley. Further to the east the heights lying to the south of the River Urunga are insufficiently known. It would appear that the country here presents the appearance of a plateau with a considerable elevation above the sea (*See page 347.*)

The passes over the Tarbagatai near the frontier are the following :

Passes. (1) Karakol, along the gorge of the river of the same name which issues from the north side of the range and flows southwards ; this is the post-road from Sergiopol to Urjar ; (2) Kutak-Daba, Narat-Daba, and Holan-Daba, between Urjar and Chuguchak, which are but little known ; (3) Sai-Ashu, Taldi-Ashu, and Khabar-Ashu, all three to the north of the Chuguchak, and close to one another. Over these lie the roads from the steppe country of the cis-Zaisan to the Emil valley. A good deal to the east, after a perceptible rise in the Tarbagatai range, and after the divergence from it of the Ters-Airik spur, lie the Bukai-Ashu and Burgu-Sutai passes ; then those of the Bai-Murza, Keregen-Tas, and Chagan-Obo. Over the Burgu-Sutai pass there is a cart-road from the Black Irtish to the Emil.

The watershed between the Aiaguz and the affluents of the Zaisan

(the Bugaz and Bazar) touches the Tarbagatai range on the north on the meridian of Urjar. This is the watershed from the centre of which rises the detached peak of Yaman-Tash, which for the greater portion of the year is covered with snow. This peak forms, so to speak, the boundary pillar between the northern portion of Semirechia and the southern part of the province of Semipalata. Further to the north the watershed passes to the Kaindi-Gat range, the western continuation of which, under the name of Chingiz-Tau, serves as the most northern border line of the province of Semirechia. The Kaindi-Gat and Chingiz-Tau ranges are low and everywhere practicable. The vegetation met with on the southern slopes is poor; but these mountains contain minerals.

In Chapter IV, Volume I, of the Turkistán Region, Kostenko gives a hydrographical description of the country bordering on the Sin-kiang province to west and north-west, and north to Lake Zaizan, and of the province itself—*q.v.*

¹ KASHGARIA. (*Kuropatkin.*)

Kashgaria lies roughly between the parallels of 36° and 43° north latitude, and the meridians of 74° and 87° east longitude.

N.B.—Fort Togsun is taken to be its extreme eastern limit, Musar as its extreme north limit, and Olug Chat its extreme western limit. (*See page 387.*) As a whole, it is in the form of a crater, with a height under the Tianshan range from 2,500' feet to 4,000', at Fort Togsun of 350', at Lob-nor of 2,200'. Towards the west it is elevated to over 4,000'. (*See Route No. 10.*) It is shut in on the north by the Tianshan, on the west by the Pamir peaks, on the south by the Kuen-lun mountain chains, covered with perpetual snow, their peaks rising to a height of 20,000 feet above the level of the sea, and which pour down into the crater their fertilising streams. To the east lie the Altyn Tagh range to the south of Lob-nor, and the low hills of the Gobi desert. The passes over the former are generally difficult, and often lie at a height of 14,000 feet. (*See pages 495 et seq.*)

The rivers flowing from the west and north, join themselves into several well-defined river systems in the Khotan Daria, the Yarkand, Kashgar, Aksu, Kuchar, Karashahar (Haidu-Gola) darias. These streams, united, form the Tarim, which loses itself in the Lob-nor marshes. For Chinese opinions of the outlets of the Lob-nor *see page 486.* The little difficulty of water finding a higher level than itself is nothing to a Chinaman.

Many of the hill streams go to form small lakes, or lose themselves in the sand or gravelly soil.

The course of the principal rivers of Kashgaria exceeds 1,000 and even 1,400 versts (666 $\frac{2}{3}$ and 933 $\frac{1}{3}$ miles respectively), but in volume and depth they are far behind the Central Asian rivers, *i.e.*, the Sir-Daria and the Amur-Daria. In their upper courses the Kashgarian rivers are swift and stony, and flow through steep gorges;

¹ Refer to the account of Sir T. D. Forsyth's mission to Yarkand in 1873. Books published since that appeared alone are referred to here.

whilst in their middle and lower streams—that is, after they have reached the plains—their currents are less rapid, and their banks are low and marshy, so that in some parts their waters go to form small lakes and bogs, overgrown with coarse reeds. (*See pages 486, 636.*)

The soil of the Kashgarian plains is brackish throughout the entire country. Oases afford the only fruitful land. In the southern portions of the valley there are vast tracts of crumbling sands. In the northern and central parts the sandy tracts are less frequent. They here take the form of narrow and low rows of hillocks. In the neighbourhood of the mountains the soil is covered with pebbles.

The climate of Kashgaria is in the highest degree dry, with severe heat in summer, and comparatively warm weather in winter. The rivers freeze in winter, and clear river ice stored in pits is plentiful and cheap in summer. During the autumn of 1876 there was not one fall of rain. Rain falls in July. During the winter, snow fell but three times, and, even then, it immediately melted. In the spring of 1887 the sky was frequently overcast, but rain fell only four times during the whole season. Storm threatenings were frequent in July; they seemed to expend themselves in the hills. The winds in the spring are very strong, and usually begin about 11 o'clock in the morning, and last till the evening. Fogs are at times frequent in Kashgaria. From May to August they are rare (1887).

The arable portion of Kashgaria is confined to a narrow belt skirting the highlands of Tian-shan, the Pamir, and the Kuen-lun mountains.

The country outside of this region consists of an almost uninhabited desert. But the belt above spoken of is not wide, and does not, throughout its extent, present a surface of fruitful land; such fruitful portions as are cultivated and dwelt upon are situated within oases. The largest of these, beginning from the east, are Kunya-turfan, Toksun, Karashahar, Kur-lia, Kucha, Bai, Aksu, Maral-bashi, Kashgar, Yangi-hissar, Yarkand, Khotan, Kiriya, Nia and Charchand. Their situation depends on the course of the principal rivers of Kashgaria. Each of these oases is an area of green corn, cut off from the remainder by a sandy waste, in some cases over a hundred versts (66½ miles) wide. Through all of the above enumerated oases there passes a cart-road, which is the main road of the whole country. In the desert parts of the country small settlements exist along this road, and stations have been built throughout its course.

Cultivation in the oases is kept up by means of irrigation. Each of the principal rivers of Kashgaria—*viz.*, the Khotan-Daria, the Yarkand-Daria, the Kashgar-Daria, the Aksu-Daria, &c.—is diverted (before issuing from the mountains) by the aid of dams into several main streams. These streams are in turn diverted into courses, from which the water is let out on to the fields. A very complicated irrigation system is thus formed in all parts of the oases. Each small field must have its own water-course, otherwise cultivation could not be carried on. The

system of dykes makes it possible to evenly distribute the water in every direction. The water thus let out on any particular field lies on it for several days. The boundaries of these oases are very clearly marked. Wherever there is water there is life; where the water ceases, there is desert. On the other hand, it pays to let the water out on the desert, as in this way barren and even brackish tracts are made available for cultivation. There is water in Kashgaria sufficient to irrigate a considerably larger tract of country than is now in use. It may be affirmed with accuracy that the sparseness of the population of Kashgaria is the principal cause of the relatively small portion of land now under cultivation, whilst the amount of land that is suited to irrigation and cultivation is not small, and might be taken up by a considerably larger number of inhabitants.

By the main road from Kashgar to Karashahar the following oases and desert regions are passed. Between Kashgar and the village of Faizabad there is an oasis of 70 versts ($46\frac{2}{3}$ miles). Between Faizabad and Fort Maral-Bashi there is a desert stretching over 150

The route followed by the Russian embassy to Kashgaria.

versts (100 miles). The length of the Maral-Bashi oasis is 20 versts ($13\frac{1}{3}$ miles). Between this and as far as the borders of the Aksu oasis there intervene 165 versts (110 miles) of desert country. The length of the Aksu oasis by the road is 85 versts ($56\frac{2}{3}$ miles). From the latter, up to the oasis around the town of Bai, there is a desert of 65 versts ($43\frac{1}{3}$ miles). The length by the road, across the Bai oasis, is 25 versts ($16\frac{2}{3}$ miles). Between this to the Kucha oasis lies a desert of 60 versts (40 miles). The length of the Kucha oasis by the road is 25 versts ($16\frac{2}{3}$ miles). Between this again and the oasis surrounding the hamlet of Bugur there is a desert of 70 versts ($46\frac{2}{3}$ miles). The extent of the Bugur oasis is 15 versts (10 miles). Between it and the Kurlia oasis intervenes a desert of 150 versts (100 miles). The length of the Kurlia oasis by the road is 10 versts ($6\frac{2}{3}$ miles), and between it and the Karashahar oasis there is a desert of 45 versts (30 miles). Each of these extensive oases contains one comparatively large town which forms the centre of a district, comprising a greater or lesser number of villages. *Compare these estimates with those given in journal of route, Nos. 8 and 9.*

Between Karashahar and Toksun the oases and desert stretches are as below:—

Chinzi Kurza	.	.	.	.	.	.	60 li.	Small oasis.
Ushtaba	.	.	.	.	.	.	72 "	"
Kamish	.	.	.	.	.	.	164 "	"
Toksun	.	.	.	.	.	.	152 "	"

According to the conditions of soil and of irrigation, the rural population is either distributed over large villages or scattered over large farms. Between the several villages and farms considerable tracts of waterless country are frequently met with.

The barren portions of Kashgaria present several phases. There are crumbling sands (to the south), rocky tracts, or country covered with loose stones, and brackish soils. The last-mentioned are the most common of all. Salt impregnates the clayey soil of the country, and renders it spongy

Appearance of the country.

and brittle. Sometimes the fields look white as with snow from the quantity of salt exuding at the surface. In the brackish parts of Kashgaria, amongst other scanty kinds of vegetation, tamarisk and a peculiar kind of poplar, called "Tugrak," grow.

Immediately after issuing from the oasis of Kashgar, a brackish and level salt tract begins, along which are scattered conical hillocks of salt-like soil. These hillocks are sometimes several feet high. On their summits grow tamarisks, the long and numerous roots of which bind together the interior of the hillocks in every direction.

Whole generations of this plant intermingle, one with the other, on the same hillock, thus adding to the mass of roots.

In going to the town of Aksu from Kashgar, after passing the village of Kupruk, and before crossing the River Kizil-Su, we met with the first separate "Tugrak" trees; beyond these, again, we came to a forest of the same kind. This forest forms a narrow belt by the River Kizil-Su, and reaches the Tarim and Lake Lob-nor. According to the natives, "Tugrak" forest also skirts the rivers Yarkand-Daria and Khotan-Daria. (*See page 540.*)

In the "Tugrak" forests we found no decayed soil, such as is an indispensable characteristic of other forests. According to the investigations of one of the members of the embassy, Mons. A. Wilkins, the leathery leaves of this kind of tree dry on the twigs, and the wind then disperses and reduces them to dust. Hence the leaves do not go to form the vegetable soil spoken of.

In "Tugrak" forests the soil is composed of a clay, impregnated with salt, such as is characteristic of the greater portion of the surface of Kashgaria. In moving through a "Tugrak" forest, clouds of brackish dust are raised, which is very injurious to the eyes.

Some of the properties of a "Tugrak" tree are noticed in the irregular form of its leaves, so that on one and the same tree several shapes will be found.

On the branches of such trees, especially on such branches as have been broken, masses of white powder will appear. From this a kind of glue is prepared.

The rivers of Kashgaria have thick reed-growths on both banks. These reeds are thickest at the place where the particular river enters a lake.

The height of these reeds is sometimes as much as 21 feet.

The poor, but, from a scientific point of view, very interesting

Fauna of Kashgaria. fauna of Kashgaria is still but little known.

Those who wish to become, in some measure, acquainted with it, are recommended to refer to the work of N. M. Prjevalski, entitled "From Kuldja across the Tian-shan to Lob-nor;" also to an article by Mons. A. Wilkins, headed "The Nature of the Basin of the Tarim;" and to an article by Mons. Walikhanoff on "the condition of Altishar, or the six eastern towns of the Chinese province of Nan-lu."

The natural riches, too, of Kashgaria have been also but little explored. Mineral wealth that has ever drawn the Chinese towards this country must be very considerable. Gold is found in the neighbourhood of Keria, and

Natural wealth of Kashgaria.

there is copper in Aksu, Sairam, and Kucha. The latter place, too, yields iron, coal, sulphur, alum, and sal-ammoniac. In the neighbourhood of Kashgar there is coal and lead. Khotan yields naphtha; Kalpin sulphur; and the vicinity of Bai saltpetre. (*See page 461.*)

Near Yarkand coal is found.

Of raw products, after grains of all kinds, the principal things that Kashgaria produces are wool and silk. Besides that which goes to supply local requirements, masses of "mata" (a coarse cotton web) are exported from Kashgaria to Semiraitchensk and the province of Fergana, and even to Orenburgh, for sale to Kirghiz. The production of this "mata" is confined principally to the neighbourhood of Kashgar. Wool is produced chiefly in the Khotan and Kunya-turfan districts; silk, too, is raised in the first of these. During the last year raw silk formed a very important item in the export trade of Kashgaria. The local silk manufactures are not exported, with the exception of "Mashrup" (a semi-silken web).

"Hashish" from Yarkand forms an important item in the exports to Kashmir and the Panjáb. Moreover, amongst the exports, the carpets from Khotan, the slippers from Yarkand, the leathern and copper-wares from Aksu, and the iron manufactures from Kucha, are renowned.

Yarkand is celebrated for its fruit, Aksu for its rice and tobacco, and Kunya-Turfan for its wool and cotton. (*See page 386.*)

Of domestic animals the following are bred in Kashgaria: horned Domestic animals of Kashgaria. cattle, horses sheep, mules, and donkeys. In respect of horses for pack and cart traffic, and especially of sheep, there is amongst the settled population of the country a great deficiency. Sheep are obtained from the Kirghiz of the mountain tracts bordering on Kashgaria, and horses from the inhabitants of Fergana. There are but very few camels in the country.

We have already said that the principal road of Kashgaria is the cart-road which connects the towns of Kunya-Roads in Kashgaria. Turfan, Karashahar, Kurlia, Kucha, Bai, Aksu, Kashgar, Yarkand, and Khotan. This road is the chief trade and military route of the whole country. Not far from the town of Kunya-Turfan, it is joined to the Chinese trade route (also a cart-road), which passes through the Celestial Empire, *via* Chuguchak to Gu-chen, Hami, Lan-chow-fu, Han-kou to Nankin. After this the road runs parallel to the mountains, and meets a number of bridle-paths that intersect the Tian-shan, Pamir, and Kuen-lun. The principal of these, beginning from the north, are—

- (1) The road from the town of Kurlia, along the Yuldus and Kunges valleys, to the town of Kuldja. This road, which was traversed during the year 1877 by Colonel Prjevalski, is 530 versts (353½ miles) long. The highest passes on it are the Habtsagai-Gol, 9,360', and the Naras, 9,800' above the sea. The first of these leads from Haidwint-Khya (Haidu Gola) valley to the Yuldus valley. This road is not practicable in the winter time on account of the drifts of snow. (*See page 486.*)

- (2) The roads from the town of Bai and Aksu, to the Musart pass, and thence to the town of Kuldja. From the town of Bai to the Musart pass is about 170 versts (113½ miles), and to the town of Kuldja about 300 versts (200 miles). The road from Aksu to the Musart pass joins on the road from the town of Bai, to the Musart guard-house. From Aksu to this guard-house the distance is about 80 versts (53½ miles). To the Musart pass it is 60 versts (40 miles) more. The entire distance from the town of Aksu to the Musart pass is about 140 versts (93½ miles). There is another, and somewhat circuitous, road, which, first of all, follows the main road to Bai as far as the Djurga station, whence it turns off to the mountains, and at Ustan-Bui settlement emerges into the valley of the River Musart, which is distant from the Musart guard-house from 40 to 50 versts (from 26½ to 33½ miles). (*See pages 406 et seq.*)
- (3) The road from Aksu to the town of Utch-Turfan and beyond lies by way of the Badal pass and Fort Kara-kol. This route was traversed in the year 1877 by a member of our embassy, Captain Soonargooloff. The distance by it from the town of Aksu to the Russian settlement of Slivkino, near Kara-Kol, is 309 versts (206 miles). (*See page 512.*)

There are several roads from Fort Narin to the town of Kashgar.

Fort Narin to Kashgar. The most practicable of these lie across the Terekti and Turugart passes. The road from the town of Kashgar to Fort Narin, by the first of these, is 260 versts (173½ miles), and by the second 270 versts (180 miles). As far as Fort Narin, a cart-road has already been made. From this to Kashgar there are at present only bridle-paths. Apparently the fittest of these for conversion into a cart-road was traversed by Colonels Kaulbars and Reintal in 1870 and 1875 respectively. This road runs from Fort Narin across the Tash-Rabat pass to Lake Chatirkul and thence across the Turugart pass to Fort Chakmak, and so on by the village of Artush to the town of Kashgar. According to descriptions given of it, this road could, with very inconsiderable alterations, be easily converted into a cart-road. (*See page 527.*)

There are several bridle-paths leading from the towns of Osh and Osh to Kashgar. Oozgent (the province of Ferghana) to the town of Kashgar. The first of these, along which passes the trade between Kashgaria and the Central Asian states, goes by way of the Terek-Davan pass. This route has been traversed by our Embassies on two occasions—in October 1877 and in March 1878. It embraces from the town of Osh to the town of Kashgar, an extent of 372 versts (248 miles), including the passes over the parallel branches of the Alai range. The heights of these are as follows: the Chigir-chik, 7,000'; the Terek-Davan, 12,000'; the Ike-Ikezyak, about 10,000'; and the Shur-Bulak, above 8,000'. This road, before it could be turned into a cart-road, would require

the expenditure of vast sums of money, money that could scarcely be recovered. From four to five months in the year, *i.e.*, from the middle of April to the middle of September, this route is abandoned by traders in consequence of the flooding of the rivers and the rocky nature of the country. During these months caravans select the road across one of the following passes, which lead on to the plains of Alai.¹

The roads from Ferghana into Kashgaria, *viâ* the Alai range, lie across the following passes, beginning with those leading across the Narin tract,—*i.e.*, the part of the country nearest to Semiraitchensk: (i) the road across the Kugart pass; (ii) the road across the Chitta pass; and (iii) the one across the Boguz pass. These three passes are very steep. The movements over them begin in the middle of April and go on to the beginning of October (Old Style), when snow-drifts begin to interrupt the communications; (iv) the road across the Belyauli pass, which diverges from the main road across the Terek-Davan pass, near Yangi-Arik, and again joins it at the valley of the River Kok-Su. Along all these passes only Kirghiz and Kirghiz traders go. After these follow in the order given: (v) the pass across the Terek-Davan, of which we have already spoken; (vi) the Kolmak-Atu pass, which is very high and steep, and is followed only by Kirghiz; (vii) the Shart pass; (viii) the Aichat-wi; (ix) the Taldwik; (x) the Turuk. The last four lead from the province of Ferghana to the valley of the Greater Alai, whence they emerge by the Tunguburun pass, near the Irkeshtam post, on to the caravan-road across the Terek-Davan. Movements across these passes begin only from the middle of April and continue to the middle of September, or sometimes to the beginning of October (Old Style). During the other months there are no movements across these passes in consequence of the deep snow-drifts from the direction of the vast Alai plateau, and also owing to the want of fuel. Along the northern slopes of the passes there is fuel in the shape of "*archa*" (the pencil cedar) in abundance; whereas on the southern slopes and in the valley of the Alai, the only fuel to be got is dung. The best of the four passes last mentioned is the Taldwik, along which caravans of goods are sent when the communications across the Terek-Davan pass are interrupted.

Trade between Kashgaria and Ferghana is almost entirely carried on by means of horses. Sometimes the smaller caravans have camels and mules. The latter animal is, however, met with in every caravan, but it is ridden only by

¹ The distances along the route from the town of Osh to Kashgar *viâ* the Terek-Davan pass are as follows: from the town of Osh to the entrance of the Taldik pass 18 versts (12 miles); from the Taldik pass to Fort Gulcha 49 versts (32½ miles); from Fort Gulcha to Kizil-Kurgan 16½ versts (4 miles); from Kizil-Kurgan to Sarwi-Kuchuk 36 versts (24 miles); from Sarwi-Kuchuk to the River Kok-Su 28 versts (18½ miles); from the River Kok-Su to the Kashgarian post of Irkeshtam 23 versts (15½ miles); from Irkeshtam to Igin 20 versts (13½ miles); from Igin to Fort Ulugchat 18 versts (12 miles); from Ulugchat to Uksalwir 40 versts (26½ miles); from Uksalwir to Kurgashin-Kani 27 versts (18 miles); from Kurgashin-Kani to Kan-Zugan 22 versts (14½ miles); from Kan-Zugan to Min-Yul 30 versts (20 miles); from Min-Yul to Fort Yangi-shar 44 versts (29½ miles); from Fort Yangi-shar to Kashgar 7 versts (4½ miles). (See page 530.)

the muleteers, who precede the caravans. With regard to the route across the Terek-Davan, an insufficiency of fuel is only met with on the southern slopes of the Tian-shan. In winter time caravans take with them dried corn for fodder. In the encampments on the southern slopes the horses find enough grass to march throughout the year. On the northern slopes, however, they only get such fodder as can be carried. Water of good quality is everywhere met with. In the warmer weather the various natural camps are made use of for encamping grounds, and also in winter time by such nomad Kirghiz as remain in the mountains. Beyond the Terek-Davan pass, in the Kashgarian dominions, a row of small road-side forts and posts were built by Yákúb Beg. Near these small quantities of forage can be procured. Food for the persons accompanying a caravan must, however, be carried for the whole journey, as along the road it is only possible to occasionally buy sheep.

During the winter time communications are only practicable by way of the Terek-Davan pass. This pass is often deep in snow, and then movements are impeded for several days, and sometimes for weeks together. Kara Kirgiz, of the Sartlar tribe, who roam about the pass, have the monopoly of conducting caravans across it, and for doing this they receive the principal part of their earnings. As a rule, when the pass is blocked with snow, caravans approaching from the town of Osh stop at Sufi-kurgan, which is in the centre of the nomads of the Sartlar tribe, while those approaching from the direction of Kashgar halt at the Irkeshtam post, and there make arrangements with the Kara Kirghiz for the conduct of their caravan across the pass.

The Sartlar Kirghiz, when the snow is deep, bring out several yaks (oxen of a Tibetan breed) to tread down a roadway, and the caravans are then conducted over the track.

The population of Kashgaria.

Passing to a review of the population of Kashgaria, let us say some words regarding the peoples composing the aborigines of this country.

From the information we possess it may be supposed that originally eastern Turkistán was inhabited by peoples of Aryan origin.

From the second century B. C., races of Mongol descent began to pour into eastern Turkistán. (*See page 438.*) These people either drove out the aborigines of the country, or mingled with them, and so formed the peculiar race inhabiting Kashgaria. The incessant wars waged between the dwellers in eastern Turkistán and the Chinese, left behind them that Chinese type in the admixture that now predominates in the country (?). This is especially-noticeable in those parts of Kashgaria bordering on China. In like manner are still found traces of those Arabs who invaded eastern Turkistán in the eighth century.

At the present time the purer types of Aryan people are, according to the researches of our Asian explorers, only to be found in the inaccessible mountains that border Kashgaria on the west and south-west. The Mongol race has been well maintained amongst the Kalmuks, a few of whom dwell in the neighbourhood of Karashahar and in the valley of the Haidwin-Kuya.

The occupiers of the several oases compose the settled population of Kashgaria, and they have adopted for their tribal designations the names of these oases. Thus, we find in the country Kashgarians, Yarkandians, Khotanese, Aksutians, Kuchayans, and Turfantians. They in reality all belong to the one type, into which at present enters, in a more marked manner now, the Turkish race (amongst the inhabitants of the west and south-west), now the Mongol race (amongst the dwellers in the eastern portions of the country).

The more modern inhabitants of Kashgaria are composed of Chinese Tungani¹ (Chinese or Eastern Muhammadans¹), Dungsans and emigrants from western Turkistán, and especially from the late Khanate of Kokan. These people are called Andijantians. Hindus are met with, too, but in considerably less numbers; they appear chiefly in the character of traders. The Kara Kirghiz compose the nomad population which occupies the mountain tract encircling Kashgaria.

The total number of the inhabitants of Kashgaria can only be determined in a very approximate manner. It may be supposed that in the whole country there are 1,200,000² souls, and that there are 65 persons to the square mile (Russian = $\frac{1}{4}$ English square miles). (*See page 503.*)

The settled population of Kashgaria is chiefly agricultural, reaping their crops of wheat, barley, maize, millet, rice and cotton. By reason of the systems of irrigation in vogue very good harvests are obtained. The nomad portion of the population also adds agriculture to its flock-rearing. The crops raised by it consist chiefly of barley. Thanks to the frequent falls of rain in the mountains, all these crops are obtained without the aid of irrigation.

Mountain industries do not occupy a very considerable place. Industries and manufactures of Kashgaria. Small quantities of coal and metals are obtained, but, generally speaking, such industries in Kashgaria are in their infancy, and this, too, in spite of the known mineral wealth of the country. (*See page 393.*)

Prior to the conquest of Kashgaria by Yákúb Beg, the Chinese used to engage themselves to a great extent in the working of gold and in extracting naphtha in the province of Khotan. Now, it is said that the working of gold has fallen off, but even at present it brings in to the ruler of Khotan a large revenue.

The various industries of Kashgaria are, comparatively speaking, very advanced, and still they can only be considered to be mediocre. The first place is taken by the produce of "mata," articles of apparel and slippers, carpets and silk. Then come the working of metals, the shaping of wood into articles for domestic use, the manufacture of agricultural implements and of arms, the working in leather. Speaking generally, with the exception of "mata" and of other articles of dress, all these productions only suffice for the not too exorbitant needs of the local population.

¹ These would appear to be one and the same, *i.e.*, Dungsans or Tungans.

² An under-estimate (?)—nearer 2,000,000.—*M. S. B.*

Further on we shall speak of the trade of Kashgaria in greater detail. Now we will only remark that the **Exports from Kashgaria.** articles of export from Kashgaria are as follows: of raw goods, silk, cotton, opium, alum, sal ammoniac and sulphur; of manufactured ware, "mata" prints, mashrupi (a semi-silken and very durable material), carpets, slippers, and coloured linens. Of these "mata" is exported in very considerable quantities, and forms the principal item in the export trade of the country.

Imports into Kashgaria. They import into Kashgaria from Russia, chintzes, cloth, tinsel, iron and iron-wares, pewter, tea, sugar, dyed articles of various kinds, matches, saddles, leather straps, glue, fruits and tobacco.

Russian manufactured wares predominate in the markets of all the towns that we visited, whereas the English goods that get into Kashgaria from India (*via* Ladak and Yarkand) cannot as yet compete with them. The specimens of English chintzes that we collected, although very pretty in design, are not lasting in quality, and are moreover faded and far more highly priced than the same sort of Russian articles. Indian muslins are fairly well distributed throughout Kashgaria, and indeed everywhere in Central Asia. Of late the importation into Kashgaria of tea from India has greatly increased. The chief articles of export from Kashgaria to India are opium, charras, gold and silver in the form of bars (or "yams"). (*See pages 546 et seq.*)

Russian and Indian goods penetrate into Kashgaria, by means of **Trade.** Russian, Central Asian, and Indian traders. In 1872 the Russians concluded a trade treaty with Yákúb Beg to the effect below:—

ARTICLE I.—To all Russian subjects, whatsoever be their religious belief, is allowed the right to travel for the purposes of trade in 'Djitwishar' and in all places and towns subject to the ruler of this country, wherever they will, just as it is now allowed to the inhabitants of 'Djitwishar' to trade throughout the whole of the Russian Empire. The respected ruler of 'Djitwishar' undertakes to protect from danger and to guard all Russian subjects who may be found within his dominions, and to extend the same protection to their caravans and to all their property generally.

ARTICLE II.—Russian merchants will be allowed to have in the towns of 'Djitwishar,' if they themselves desire it, their own caravan saráis in which they shall be allowed to store their goods. The same right shall be enjoyed by 'Djitwishar' merchants trading in Russian towns.

ARTICLE III.—In order to ensure the regular progress of trade and the lawful collection of all dues to the Russian merchants will be accorded the rights to have, if they wish it, in all the towns of 'Djitwishar,' trade agents (Karavan-Báshis). This right will also be accorded to 'Djitwishar' merchants in the towns of Russian Turkistán.

ARTICLE IV.—From all goods entering 'Djitwishar' from Russian territory or entering Russian territory from 'Djitwishar,' there shall be exacted a tax of 2½ per cent. on the cost of the goods. In no case shall more be demanded. This agreement will also apply to the Musulmans and 'Djitwishar' subjects of both the contracting parties.

"ARTICLE V.—To Russian merchants and their caravans will be accorded a free and safe conduct throughout 'Djitwishar' territory and the possessions adjoining thereon. The same privilege will be extended to 'Djitwishar' caravans travelling through Russian territory."

Chap. III of Kuropatkin's work gives a list of goods imported and exported into and from Kashgharia, from and to European Russia and Russian Turkistán. The chief imports, amounting in value in 1876 to £31,000, were—

Russian chintzes	43 per cent.
Do. wrought and cast iron wares	5 "
Do. tea	12½ "
Do. sugar	2½ "
Do. dyeing materials	2 "
Do. sheep	20½ "

Of these, 76½ per cent. passed through Tokmak, 2 per cent. through Karakol, and 21½ per cent. through Osh.

Kashgharia chiefly depends on the nomads inhabiting the mountain region encircling to north-west and south-west for cattle (horses and sheep). The chief supply comes from the Tokmak, Vairnoye, Karakol, and Osh districts (Russian). The chief exports, amounting in 1876 to £138,000, were—

Mata (locally manufactured cotton cloth)	81 per cent.
Silk	5 "
Robes	4 "
Felts (coloured)	2 "

In the Khotan circle alone is the working of silk developed to any extent. The climatic conditions of the Kashgar circle suit the development of this industry.

Wool is also exported from Khotan. Of the exports 85½ per cent. passed through Tokmak, 10¾ per cent. through Osh, and 3¾ per cent. through Karakol. Silk, goats' wool, opium, silver, and gold, are the chief exports to India.

The chief goods imported from India *viâ* Ladákh are European piece-goods, and Indian and foreign teas.

The best route for the transport of mata goes from Kashgar to Forts Chakmak and Narin, and so on to the towns of Tokmak and Vairnoye.

The material is carried on pack-horses, camels, or mules.

The pack-horses are procured chiefly from the province of Ferghana, whilst the camels come either from Semiraitchensk or Kashgharia itself. The mules all come

from Kashgharia. The camel carriage is only made use of during the summer, since these animals dislike the cold (?). (*See pages 238 et seq., 242.*) The Kashgharian merchants make use of mule transport on a large scale. Between Kashgar and the town of Vairnoye, horses are to be hired. One that will carry a load of from 8 to 9 poods (288 to 324lb) will cost from 2½ to 5 ducats, or from 6¼ to 12½ roubles (15s. 7½d. to £1 11s. 3d.), according to circumstances. The normal rate is 3½ ducats. The distance between Kashgar and Vairnoye is traversed in from 25 to 30 days.

The hire of a camel that would carry from 13 to 15 poods (468lb to

540lb) would be from 5 to 9 ducats. The distance would be performed in from 30 to 35 days.

A mule carrying a load from 4 to 5 poods would cost from 35 to 50 tengas or 5 roubles (12s. 6d.), and the distance would be traversed in the same time as that taken by a horse. For prices from Yarkand to India, *see pages 537, 569, 583.*

The traders engaged in the transport of mata have no other expenses beyond the payment for the hire of the particular mode of transport.

For internal transport, donkeys, numerous and of an excellent stamp, are largely used; bullocks, less so.

Inasmuch as Kashgaria cannot be called a country richly endowed by nature, her inhabitants are not to be held as opulent people. But then their requirements are very few.

Condition of the people of Kashgaria.

Their dwelling-places are¹ poor, being built of sun-burnt bricks, and almost without windows, flat roofs, and entered through low narrow doors. They have

Their dwellings.

earthen floors and are generally of the same type of architecture as obtains throughout Central Asia. But then, on the other hand, it must be observed that there are, for example, in our own Central Asian possessions, very many comparatively rich houses in the towns, houses the inner walls of which are made of alabaster, and the ceilings adorned with carvings and rich modelling, whilst the exteriors are of burnt brick. In Kashgaria the abodes of the rulers of the country present the appearance of simplicity almost approaching to poverty. The walls are not merely left unplastered, but are without whitewash. Towns thus look poor and dirty. The absence, too, of imposing buildings, like mosques, strikes the eye at first sight. (*See pages 509, 536.*) Several buildings that have still remained from the times of the Arab rule, are almost the only memorials deserving of attention in an architectural sense. The interior arrangements of most of the houses fully correspond with their exteriors. The household furniture is of the most primitive order. A few benches, low wooden tables, some wooden and earthen utensils, the whole presenting an air of poverty, and often of filth (especially Aksu—*M. S. B.*).

It should be added that if architectural science in Kashgaria remains at such a low ebb, so, too, are all the other sciences found to be in the same primitive condition. They are more likely to disappear than to improve. Literature in Kashgaria does not exist, with the exception of works of Bukharian and of Arab writers. After going through the greater portion of the country we nowhere saw a single bookshop. (*See page 526.*)

State of the sciences in Kashgaria.

The dress of the people of Kashgaria is similar to that worn by the people of all the Central Asian Khanates. They have the same long shirt made of matta,

² Dress of the people of Kashgaria.

¹ The dwellings of the poor are as good as in any other eastern country; there are apparently few rich Turks in the country. (*See page 510.*)—*M. S. B.*

² They are as well or better and more warmly clad than the majority of the inhabitants of India.

trowsers of sheepskin (winter wear), the "choga," morocco leather slippers, and on their heads the customary turban, or more frequently now the skull-cap alone. The comparative poverty of the inhabitants of Kashgaria is revealed to a certain extent by the sort of calico material which they wear. As a rule, on *fête* days one will meet in the bazárs of Central Asian towns, many people attired in semi-silken, silken, and even brocaded materials; whilst there are few really poor persons who do not wear chintzes. In Kashgaria, however, the number of people clad in chintzes ornamented with embroidery are very rare, whilst those dressed in silk are in the minority. In winter time they add to the number of their garments by placing one over the other. Their chintz coverings are then wadded, or covered with sheepskin or other furs.

The daily food of the mass of the people consists of bread-cakes, of a dish of tuppa, a thick kind of vermicelli, cut up with a greater or less quantity of meat, or with an admixture of grease and "shurba," or mutton broth, with vegetables, to which meat is added according to the means of the good man of the house. Also various kinds of meals and millets, curds, &c.

Their food,

On festive occasions the most favourite dish of all Central Asian peoples is prepared,—*viz.*, the "pilau," a mixture of rice, mutton and spices.¹ From the Chinese *cuisine* the people of Kashgaria have learnt to make elkazai, a kind of soup prepared in a peculiar vessel shaped like a samovar (or Russian tea urn), and divided into several compartments. Into the composition of this very complicated dish, various sorts of meat enter, also vermicelli, pepper, clove and laurel leaves. But this kind of food is only within the reach of the rich. From the Chinese the people of Kashgaria have also borrowed various kinds of jellies.

Their drink at meals is generally water and occasionally milk. In Kashgaria, during the autumn and winter, fruits are a great addition to the food of the population. Amongst these the first place is taken by various sorts of melons, and of water-melons, grapes, apricots, figs, peaches, pears, and apples. Of sweetmeats, the confectionery imported from Russia occupies a very perceptible place.

Their drink.
Fruits.

The language of Kashgaria is almost everywhere Turkish (Turki), and throughout the entire country all speak one and the same dialect. (*See page 527.*)

The language of Kashgaria.

This dialect is in some respects different from that in use in the other Central Asian Khanates. The difference partly arises in consequence of an admixture of Chinese words, and partly because various names are given to different articles. There is yet another distinction. The Kashgarians pronounce words, with scarcely opened lips, and with closed teeth, and hence do not divide either one sound, or one syllable from another. Amongst the Kashgarians, too, there are many words that obtain likewise amongst our own Tatars, words which are not used generally in Turkistan. An inhabitant of Tashkent

¹ Pilau, shurba, and tuppa are the principal dishes of the inhabitants of our Central Asian possessions. In Tashkent tuppa goes by the name of ugra.

would not understand these words, whilst an Orenburgh Tatar would do so, although not without difficulty, in consequence of the manner of pronouncing them, and the substitution of certain letters for others. The Chinese words used by Kashgarians in conversation become mutilated in the process.

As a general rule, the difference in the dialects of Kashgaria and those of Turkistán is not so great as to prevent a Turkistání from acquiring within the space of some weeks that which distinguishes his own *patois* from the Kashgarian dialect.

The names of the weights and measures that are used in the country are borrowed from the Chinese, as are also the divisions of time. (*See pages 433, 537.*)

Religion of the people of Kashgaria.

The bulk of the population of Kashgaria profess the Muhammadan religion. (*See page 444.*)

On the introduction of Yákúb Beg's power into the country, no other religion was tolerated. Those Chinese who were allowed to live were turned into Muhammadans, for they had but the choice between death and a change of their religion. An exception was made in favour of the Kalmuks, who remained idol-worshippers. Under Chinese dominion the people are left free to follow their own faith. The severity and fanaticism of the teaching of Muhammad is very skilfully circumscribed by the sons of the Celestial Empire. One of the results of their influence is the great freedom given to women. Women are allowed to walk about in the streets with unveiled faces. Moreover, the Chinese allow themselves great latitude in morals—a latitude which approaches almost to depravity—and give license in the matter of marriage. Marriage, which can by the law of Muhammad be so easily dissolved, in Kashgaria is set aside with even fewer formalities; and, besides this, there is a kind of marriage in vogue which is contracted for a term, this term may be for a week only. These temporary marriages, which are entered into with all the usual ceremonial rites, are principally contracted by those traders who are residing but for a time in the country. Fasts are irregularly kept, and prayers are still less frequently said. (*See page 470.*) On the seizure of power by Yákúb Beg, he in the matter of religion, placed his heavy hand on the people. The former strict observance of religious ceremonies, such as fasts and public prayers, again appeared. In order to ensure the uninterrupted observance of religious rites, a class of clergy was established. Women, too, were directed to walk in public with veiled faces. The most favourite *fête* day of Asiatics, the "baiga," at which the men show their skill in horsemanship, and their strength in personal encounters, was forbidden. Licensed houses, which during the Chinese rule became so numerous, were closed throughout the towns of Kashgaria. Yákúb Beg himself give an example of devoutness and of simplicity of life, and strictly required the like from others. He acted as though he would turn the country into one vast monastery, in which the new monks, whilst cultivating the soil with the sweat of their brow, had to give as much as possible, nay, the greater part of their earnings, into the hands of the Government

to devote to warlike purposes. Plurality of wives in Kashgaria, as in other Musulman countries, is open to all. Yákúb Beg, whilst leading an exceedingly chaste (homely ?) life, and living in no better style than any thriving native, preferred to dwell in a caravansarai rather than in a house, and maintained in his ordinary harem as many as 300 women, 6 of whom accompanied him in all his wanderings.¹

Severe punishments, often that by death, overtook those disobedient to the will of Yákúb Beg. Having succeeded in making his name terrible, this potentate, in spite of the generally received opinion to the contrary, very seldom resorted to capital punishment. Being in need of money, he more frequently punished offenders and those in disgrace by declaring their possessions confiscated to the state.

Of diseases that are most ordinarily met with in Kashgaria, the Diseases prevalent in first place must be assigned to those connected with the eyes. Blindness is very common, as are also affections of the lungs, scrofula, itch, tumours, and goitre. Affections of the eye are explained by the saline properties of the dust that fills the air, and by the glare arising in summer time from the salty soil. The natives attribute the frequency of goitre to the use of water. (*See page 538.*) One must also call attention to those diseases which arise from the very extended use of opium. Dr. Bellew, Forsyth's colleague, has observed that such diseases impair the digestive organs and produce hypochondria and manias of various kinds.

Kashgaria for administrative purposes is divided into districts, each of which contains a town and its adjacent villages. Mandarins, "Chi-Hsien" or "Tao Tai," known locally as Ambans, reside in the chief towns; Mandarins of less rank in the small towns. The executive work is carried on by minor Turk Mandarins. It is now a subdivision of the Chinese province of Sin-kiang (new province), which includes all the Chinese possessions north of Kansuh to the frontier of Mongolia. The Governor, or Tsung-tung, Liu-kin-tang, or Lu-josh-wai or Lu-ko-sai, resides at Umiotza, lately constituted the chief town of the province. The towns classed as of second importance are Aksu and Barkul.

The chief circles in the time of Yákúb Beg were those of Kashgar, Yangi-Hissar, Yarkend, Khotan, Aksu, Ucth-Turfan, Bai, Kuchar, Kurlia, and Kunya-Turfan.

Kuropatkin, in Chapter II of his work, gives the approximate estimate of the taxation of several of them. (*See Taxation. Routes Nos. 8, 9, and 10.*)

The direct taxes that obtained in the time of Yákúb Beg were the same as those of other Asiatic states, *viz.*, the heradj, $\frac{1}{10}$ part of the produce of the soil; the tanap tax on gardens, sown fields, cotton, clover, and orchard produce; each tanap is assessed separately, and amounts to 20 tengas; and the ziaket tax on cattle and merchandise, amounting to about $2\frac{1}{2}$ per cent. Besides the indirect taxes, *i.e.*, *saman-pul*, a batman (10^{lb}) of grain, and two sacks of straw;

¹ The chaste life notwithstanding.

kyafsen, a tax on grain to defray the expense of the tax-gatherers; and *tari-kara*, legacy duty ($2\frac{1}{2}$ to 3 per cent.).

According to calculations which we made in the town of Aksu, the weight of a charik equalled 24 $\frac{1}{2}$ lb of wheat, Weights, &c. or 26 $\frac{1}{2}$ lb of maize, or 25 $\frac{1}{2}$ lb of barley.

Mr. Shaw, in his Vocabulary of the Language of Eastern Turkistán, says:—

“There are three distinct characks in Eastern Turkistán,—one used for raw silk, certain colouring materials, spices, tea, &c. It is equal to 4 jings, or 5 $\frac{1}{2}$ lb. The second is used for all manner of goods, and is called *ashlightashi*, ‘food weight,’ also *turt-tash*, ‘four weights;’ it weighs 12 $\frac{1}{2}$ jings, or nearly 16 $\frac{1}{2}$ lb. It is distinguished from the third sort introduced by the Amir Yákúb, which was called *beshtash*, ‘five weights,’ and weighs 16 jings, or 20 $\frac{1}{2}$ lb.

Without taking into account the exchange on silver, one may reckon a Kashgar tenga at 10 kopaikas. Ten kopaikas would be equal to about 3 d . English.

Mr. Shaw, in the work previously quoted, says:—

“A *tangah*, or *tenga*, consists of 25 small copper coins (of Chinese make, with square holes through them) called *dah-chan*, each of which is worth two *pul* (imaginary coin). The value of the *tengah* varies constantly in the bazárs according to the number of them that may be given for a *kurus* (a Chinese silver ingot, weighing about 2 $\frac{1}{2}$ lb and worth about 170 rupees). Sometimes the number reaches 1,100, and sometimes falls as low as 800. The Amir Yákúb of Kashgar supplied the lack of small silver coinage by issuing in the name of the Sultan of Turkey silver coins worth a *tangah* each, and called *ak-tangah* (‘white tangas’), after the model of the Khokan and Bukhara coins of the same name. These were current at a small premium. The Khotan *tangah* consists of 50 copper *shuchan*, which are only slightly smaller than the Yarkand *dah-chan*. Consequently a Khotan *tangah* is nearly twice as much as a Yarkand or Kashgar one.”

(See pages 538, 528.)

The taxation at present is not burdensome, nor does much oppression seem to be exercised in its collection, and is much as given in the chapter and extract above quoted (see also pamphlet by Captain E. Molloy). Exactions—and such are inseparable from an oriental government—are due to the sub-collectors, themselves Turks or Dungsans.

Kuropatkin estimates the population of certain places visited by him, as below:—

	Families.		Total Families.
Kashgar—		Aksu Circle	30,000
Shaptali	600	Bai district—	
Faizábád	400—500	Bai	400
Youngábád	70—100	Sairam	800
Tazgin	10,000	Kuchar district—	
Artosh	10,000	Kurlia	2,000
Argu	300	Yangi-Hissar	2,000
Maral Bashi district	3,000	Charchi	22
Kalpin	3,000	Durbin	300

He thus summarises the past history of the country, its conquest by Yákúb Beg, and the instability of his rule and fall.

The dominion of the ruling race in Kashgaria has given place to that of another very many times. Chinese have ousted Mongols, and Mongols again Chinese. Then have followed Arabs, and again Mongols, who have once more given way to Zungarians and to Chinese. Reference is invited to pages 437 *et seq.*

In the intervals between the inroads of the peoples above mentioned, internal dissensions have divided the country against itself. The circles of Kashgar, Yarkand, Khotan, Aksu, and others have at one time become independent, each of the other, and have again fallen under the yoke of one another in turn.

The struggle for political supremacy gave way, in the sixteenth century, to religious strife between the two parties under Khwájás, who then made their appearance in the country—the white mountaineers and the black mountaineers. This strife divided the country into two hostile camps, and it was owing to this state of things that Kashgaria fell so easily under the power, first of the Zungarians, and then of the Chinese. The period of Chinese sovereignty, from 1760 to 1825, uninterrupted, as it was, by emeutes of any kind, gave some repose to the country, and with that repose the condition of the population improved. The mistakes made by the Chinese, and their weakness and inability to gain, if not the sympathy, at least the respect and fear of the people whom they had conquered, called forth the insurrection of 1825. Then began afresh the bloody period in the history of Kashgaria—a period that has not terminated up to the present time (1876). A slight glance at the simple abstract of events which we give below will be sufficient for us to see through how many agitations Kashgaria has passed during the last fifty years, and how much blood has been shed during that period of agitation.

In the year 1825 there took place in Kashgaria the rising of Jan-gir-Tura. In 1830 there was a rebellion of the Kokan troops, followed by the insurrection under Khwájás (Hatta-Tura). In 1857 occurred the insurrection of Walikhan-Tura. In 1862-63 Kashgaria rose up against the Chinese. In this insurrection the Dungsans, Rashídin-Khwájá and Habibulla-Khwájá, took part. From 1864 to 1868 the conquest of Kashgaria, at the hands of Yákúb Beg, was proceeding. In 1869 Yákúb Beg marched against the rebels of the province of Sari-Kol.

In 1872 there was a Dungan insurrection against Yákúb Beg, which was suppressed by Yákúb Beg's son, Bek Kuli Beg.

In 1876-77 began and ended the struggle between Yákúb Beg and the Chinese. After every rising, the state of the country became worse, since each rising was promoted for the sake of individuals, who succeeded only because the Chinese commanders were inefficient, and their armies small and of inferior quality. After the suppression of each insurrection, the chief offenders contrived, as a rule, to get away, at least for a time, with the booty they had acquired, whilst the people paid for the actions of their leaders with their possessions and with their lives.

From this it will be understood that what the people of Kashgaria

The people of Kashgaria desire peace.

most desire is peace and the advantages of such enjoyments as may still be left to them.

With regard to

This the rule of Yakub Beg has not given them.

their demands for peace, we have already seen, from the simple chronological statement of events during the past fourteen years, that Yákúb Beg did not fulfil the desire of the population; and hence, for this cause alone, he called forth dissatisfaction against himself.

But dissatisfaction with Yákúb Beg was called forth by other causes as well. First of all, he became the ruler of Kashgaria, not by the popular desire, but from being a usurper, and one who, by taking advantage of the weakness of those in authority, and by gaining an influence over the army, took the power into his own hands.

Dissatisfaction of the population with Yákúb Beg and its causes.

We have seen above that Yákúb Beg succeeded in possessing himself of the sovereignty. But how did he labour to this end? He captured Yangi-Hissar, Yarkand, and Khotan. In the last-named place he slaughtered numbers of the inhabitants, and treacherously murdered the Hákims of Khotan and of Kucha, Habibulla and Rashíddín. He destroyed also the rebel Kipchak, whom he had promised, with an oath on the Kurán, to free and to send out of Kashgaria. He administered poison to Katta-Tura, observing, as he did so, that his victim was not in a position to render unquestionable obedience to him, &c. In such a way, then, did Yákúb Beg gain possession of his throne. Hence, he created many bitter animosities. But his people would have forgiven all, if only, after becoming supreme ruler of the country, he had finally given them the desired peace and enabled them to obtain the rest they so much wished for, by introducing order and security for their property and labour. But Yákúb Beg could not fulfil these expectations. Whilst unconvinced of the durability of his sovereignty from inward causes—a sovereignty acquired at the price of the blood of many thousand inhabitants,—Yákúb could be no less uncertain as to the dangers which beset Kashgaria from without.

He therefore made it his object to seek for the necessary security. As the best means of arriving at peace within the state, he held that strong garrisons should be established in all the towns. As the best method of securing the safety of his possessions from without, he considered it wise to set in hand the extension of his border line beyond the limits that Kashgaria had ever possessed. Accordingly he pushed his borders far into the mountains that shut in Kashgaria on the north, west, and south, and built many forts and posts on all the roads leading to his country through the mountain region. On the east, whence Kashgaria was threatened with the danger of a Dungan invasion, or, after the subjugation of these people, an inroad of the Chinese, he seized the Dungan towns of Kunya-Turfan, Urumchi, Manas, and others, and so carried his borders far towards the east. (*See page 382.*) Thus, working to secure, by means of troops, both interior order and the safety of his kingdom, Yákúb Beg could not devote much time towards introducing order into his country; and he therefore established a system for the government of Kashgaria which, whilst it was easy for himself, was at the same time most oppressive to his people.

All his provinces were farmed out, and the Hákims, who were bad tenants, began to collect from the people more than they really could afford to pay. Thus all possibility of recovering themselves was completely withheld from the people. The minor officials, such as Sirdars and Yuz-Bashis, acted in the same way as their superiors; each thought only of his profits, and, being aware of the insecurity of his own position, endeavoured to enrich himself with all possible speed.

Let us now glance at the causes of the discontent amongst the population of Kashgaria, and let us examine each principal condition separately.

- (1) The agricultural class, the most numerous and important in Kashgaria, could not be satisfied with the existing state of things in the country, because for their hard work they were only allowed to receive, not nine tenths (as the Musulman law allows), but from one fourth to half.

The orders of Yákúb Beg, as addressed to the Hákims direct, ruled that the principal part of the heradj tax should be paid, not in kind, but in money, and so the condition of the agriculturists became still further injured. The Hákims, who were always alive to their own gains, appointed prices which were far above those obtaining in the bazár; and these, of course, quickly fell only when there was an extra supply of grain-produce.

Besides this, the greater percentage of recruits for the army came from among the agriculturists.

- (2) The trading class had likewise several well-founded grounds for dissatisfaction with Yákúb Beg. Trade in Kashgaria did not enjoy the perfect freedom that was indispensable to it. (See page 560.) The seasons for despatching caravans across the border were appointed by Yákúb once every four months, and sometimes less frequently.

Especially of late had they begun to restrict the despatch of caravans into Russian territory, and this because to these caravans many young people were in the habit of attaching themselves as muleteers with the object of leaving their native land for good and all. Besides this, demands were made from traders in the shape of *douceurs*. Further, they were either paid but insufficiently for their goods, or were not paid at all. Moreover, the state of trade in Kashgaria could not but be affected by the poverty of its principal dealers, the agriculturists.

- (3) Finally, the priesthood had also sufficient reason to be dissatisfied with Yákúb Beg. Notwithstanding his outward piety (for thirteen years he had not omitted a single prayer, and his relatives boasted of the same), Yákúb Beg in all his quarrels with the priestly class, had acted very harshly. The church lands, which had never paid any sort of tax, were included by him in the same category as other property with regard to the payment of the heradj and tanap taxes; and this notwithstanding that the voluntary contributions of the people, burdened already with intolerable impositions in support of the priesthood, could not be otherwise than considerable.

¹ (See page 538.) The Kashmir and Indian merchants made rich harvests and alone now regret the days of Yákúb Beg.

Thus Yákúb Beg could never count on the sympathy of the people towards him. Knowing this very well, he, from the first day of his coming to Kashgaria, began to form around himself a party to whose advantage it would be to support him. To this party belonged those persons from Kokan, Tashkend, and also from Kashgaria itself, who had succeeded in obtaining the good-will of the new ruler.

To them were given all the most lucrative posts in the country. Perceiving their support, however, to be insufficient, Yákúb Beg made friends with a more powerful stay—the army.

By placing the army in a privileged position, by forming a pseudo-aristocracy of the country of members of the army, by liberally rewarding their services, and by giving the first places in the administration to those persons who had served therein, Yákúb Beg could, at first, reckon on the sympathy and support of the troops. But, afterwards, the too manifest preference evinced by Yákúb Beg for exiles from Tashkend, Kokan, Afghánistán, India, and other places, over recruits from amongst his own subjects, and the more recent increase of military levies, coupled with his first failure against the Chinese,—all made the troops even dissatisfied with Yákúb Beg.

The desertions, which of late became very numerous, clearly proved what has been said. Several individuals, too, who occupied high positions in the administration, and on whose fidelity Yákúb Beg had previously always reckoned, now began to change towards him. They ceased, in fact, to believe in the star of Yákúb Beg, and they endeavoured to make off, whilst there was yet time, with the booty they had obtained. It may be believed, then, that, by opening a war with the Chinese, he, notwithstanding a few successes, only hastened his own fall.

Such, then, were the results that thirteen years of feverish activity had brought upon Kashgaria. Meanwhile, it must be undoubtedly admitted that this ruler possessed many qualities which made him stand out from amongst all the rulers of Asia.

His military accomplishments, his powers of organization, his personal bravery, his simple life, his power of will, his iron energy in the attainment of those objects which he had marked out, all seemed a guarantee that, under the direction of this, by nature, richly-gifted personage, the country would obtain rest, and would recover from, and outlive, its poverty. But there are obstacles of such a kind which so operate on a Central Asian potentate that, even in the face of favourable qualities, a combination of political, religious, economical, and social conditions make his rule unstable, his activity of but little use, and the sovereignty which he has founded but of short duration.

1 HISTORY.

(1) An account of the early history of Kashgaria is given in Kuropatkin's "Kashgaria," pages 89 to 103. For the continuation of its

¹ For summary of history, see page 433.

history, see an account of the relations that existed between Zungaria and Kashgaria which led to the present Chinese dominion over these countries (*pages 444 et seq.*).

Pages 117 to 133, Kuropatkin's "Kashgaria," show the condition of Kashgaria in 1759, and the Chinese system of administration.

An account of the further progress of the Chinese in Central Asia, and their administration of Kashgaria down to 1857, is given in Kuropatkin's "Kashgaria," pages 134 to 152. Chapter VI of this work gives an account of the Muhammadan insurrection in the Chinese provinces of Shansi, Khan-su, Zungaria and Kashgaria, and of the rise to power, in the latter state, of Yákúb Beg. Chapter VIII gives a history of events to the reoccupation of Kashgaria by the Chinese.

From (1) it would appear that the Hwei Hwei, in the year 134 B. C., were known as Gets or Yuts, and were of Mongol origin, and, at the time of the Hun invasion, occupied the province of Shansi. Driven out of Shansi a section of them moved to the north-east, driving in turn the Saks, an Aryan race, the inhabitants of East Turkistán, out of Kashgaria, and crossing the Tian-shan range, descended into the valley of the Ili. Another section, moving south, poured into the valley of the Indus, laying waste to the kingdom founded in India by Alexander of Macedon.

The Gets, or Hwei Hwei, allied themselves in a measure with the Saks.

On the expulsion of the Huns from China, they in turn poured through eastern Turkistán, driving the Gets and Saks before them, and, amalgamating with the remnants of these races, formed the population of eastern Turkistán, which became again somewhat changed owing to the inroads of other peoples—Arabs, Mongols, &c.

The Huns, or Úighúrs, in the beginning of the Christian era, intermingling with the peoples who remained in the country, gradually civilised them, and they have lost by degrees their primitive Mongol physiognomy.

The Úighúrs of the north and west Tian-shan ranges are nomads to the present day, and are known as Zungars (Kalmuks) and Buruts (Kara Kirghiz): the former are met about Karashahar and still preserve the Mongol type of countenance; the latter are found between Aksu and Kashgar. (*See page 376.*)

The Úighúr kingdom in eastern Turkistán, Kashgaria was annexed to the Celestial Empire in the year 94 A. D., and remained subject to it till the eighth century

Chinese dominion. During this time repeated rebellions took place, and each time that independence was secured, the various independent provinces into which it became parcelled out (Kashgar, Yarkand, Khotan, and Aksu) quarrelled amongst themselves for the pre-eminence.

In the beginning of the eighth century the Arabs annexed it to their dominions. The weakening of the Arab dominion over Asia resulted in the revival of the Úighúr sovereignty, and its extension from the Caspian to Gobi. In

Early history of Kashgaria.
(*See pages 304, 309.*)

Uighur dynasty.

Chinese dominion.

Arab dominion.

the twelfth century internal discords caused it to fall to the Mongol hordes of Kara-Kitais, and for a century their dominion extended to Khiva.

Internal discords led to the fall of the Kara-Kitais dominion, and in the year 1220 fresh Mongol hordes under **Mongol dominion.** Chengiz Khan annexed it to the kingdom formed by that celebrated leader. It was during this last and brilliant rule of Mongols that Kashgaria attained its highest degree of prosperity,—a degree which it never before reached. On the death of Chengiz Khan Kashgaria fell to the inheritance of his son Chaghatai.

HISTORY OF THE MONGOL CONQUESTS IN ASIA.

Royal Asiatic Society's Journal, Vol. XX, Part I, 1888.

Yussukai, the father of Chengiz, did much towards establishing the supremacy of his tribe; he ruled over some **The Mongol dominion.** 40,000 tents. Chengiz incorporated the Turkish tribes about Lake Baikal, southern Siberia, the Uighúrs; subjugated Liau-tung and the Tangut kingdom. His son completed the subjugation of the Chinese empire. He conquered Kashgaria and invaded Khurasán and the Caspian territory. His hordes, numbering 600,000 at his death, swept in three directions through Khurasán, Afghánistán, Azárbáiján, Georgia, southern Russia, and China.

Under Bátú, his grandson, they spread over the great part of Russia, the country north of the Caucasus, Khwárazm and part of modern Siberia, and formed the empire of the Kipchák.

From these descended the Kháns of Astrakhán, Khiva, Kazán, the Krím and Bukhárá.

Chaghatái ruled over parts of Khwárazm and Khurasán, the Uighur country, Kashgar, Badakhshán, Balkh, Ghazni to the banks of the Indus. He and his successors ruled from Karákorum and Almálík, &c.

Between his four sons, Jújí, Chaghatái, Oktái, and Tulúi, the inheritance was divided, the other children probably being given tribal rank below them. To Oktái, a somewhat hard-drinking warrior, was given the appanage of the tribes of Zungaria, and, in addition, he was nominated successor to the supreme Khanate, to which in due course he succeeded, assuming the title of Khakan. The seat of the Khakan's empire eventually became Khánbalík or Peking, and included China, Corea, Mongolia, Manchuria, and Tibet, with claims even towards Turaking and Ava. Before this, however, the supreme throne had passed to the line of Tulúi, which it did after one generation in 1248 (646 H.)

To Tulúi was assigned the home clans, the care of the imperial family and archives, and, as fell out, the flower of the Mughal army proper; to which last circumstance it was in a great measure due that his eldest son, Mangú, a general of renown, became afterwards chosen as supreme Khan who was again succeeded by a still more famous brother, Kubalái, the "Great Khan" of Marco Polo, and the "Kubla Khan" of Coleridge. A third brother, Hulákú, founded the Persian dynasty of the Ílkháns, and an empire that besides all Persia

came finally to include Georgia, Armenia, Azárbáiján, part of Asia Minor, the Arabian Irák, and Khurasán with a capital at Tabríz.

Jújí, the eldest, died before his father Chengiz, but to his family was assigned the empire of Kipchák, or the northern Tartars, founded on the conquest of Bátú, his eldest son. Its chief seat was at Sarai, on the Volga, and it finally covered a large part of Russia, the country north of the Caucasus, Khwárazm, and part of modern Siberia; the whole being known under the generic name of the "Golden Horde," from the chief's "Sír Orda," or golden camp. Bátú ruled the Blue Horde or western Kipchák, extending east and west from the Ural to the Dnieper, and north and south from the Black and Caspian Seas to Ukak¹ on the Volga, and carried the Mughal armies over a great part of Russia, Poland, and Hungary, scattering fear through northern Europe. Úrdah, his brother, ruled the White Horde or eastern Kipchák, from the Kizil Kúm, or red sands, to the Úzbek country, where Shaibán, another brother, ruled the Kirghiz Kázak steppes, while a fourth ruled to the north again in great Bulgaria, and a fifth for a while was independent in southern Russia.

From these descended the various lines known as the Khans of Astrakhán, of Khiva, of Kazán, of the Krím, and of Bukhára. Excepting the Ilkháns of Persia, the whole of these, with their intricate ramifications, have been dealt with by Mr. Howorth, who, in his three volumes of "Mongol History," has devoted an amount of patient research that can perhaps only be fully appreciated by those who have consulted his learned work.

The dominions assigned to Chaghatái or held by his successors included Máwará-un-nahr and parts of Khwárazm and Khurasán, the Úighar country, Transoxiana, *i.e.*, Kashgar, Badakshán, Balkh, and the province of Ghazni to the banks of the Indus. A vast extent of territory, corresponding to the modern kingdom of Independent Tartary, the western and northern portions of Chinese Turkistán, Transoxiana, with at least a part of Afghánistán. It included countries differing from each other in every particular. North of the mountains of Mughalistán, the Tian-shan of the maps, was a great pastoral country, interspersed with lakes and rivers, varied with hill and dale, rich plains and pleasant meadows; in the spring and summer, covered with beautiful flowers and plants, and at those seasons possessing a climate particularly delightful, though the extreme cold of the winter drove the inhabitants to seek the more southern and sheltered districts. But it was also interspersed with, and abutted on, extensive deserts, while to the east a great townless waste separated the Khanate from the Empire of the Great Khan. Kashgar and Yarkand, or what was called the Middle Empire, lay between these mountains and the wealth and population of the south, and, though they too abounded in wild country, possessed many large and important towns, Bukhára and Samarkand, the "pearls of great price," and the country that went under the name of Márwará-un-nahr. Farghána, Balkh, and Badakshán, on the other hand, were rich and civilised kingdoms, rejoicing

¹ Near the modern Saratov.

in cultivated fields, flourishing cities, less prosperous perhaps than before the devastating visits of Chengiz, but gradually recovering themselves.

The inhabitants of a good deal of this western part of the Khanate, more especially Bukhára and Samarkand, had much more in common with their south-western neighbours, to whom they were more nearly allied by blood, culture, and religion than with the more vigorous but less civilised Chaghatáides; and, though they remained subject to the family till the appearance of Timur, it was more generally as dependencies than as integral parts of the empire. The first headquarters of the Khans is said to have been Bishbálík (Umiotza), but Chaghatái himself soon moved his summer residence to Almálík (or Almáligh), which place was certainly one of the capitals from a very early date, 1234 (652H.), and continued to be, at least nominally so, until the end of the dynasty. The sovereign is reputed as residing there in the time of Halákú, 1254 (652 H.), and Ibn Batuta in 1334 (735 H.) speaks of its being still recognised as the proper capital.

Chaghatai, his great expeditions over, settled down at Almálík, appointing governors over his distant dominions—Máwará-un-nahr, Bukhára, Samarkand. His immediate successors continued to reside mainly in the eastern part of the Khanate. After his death, influence over Khurasán, and territories beyond the Hazára range, ceased. At first their wild and wandering nature preferred the free life of mountain and desert, as alone worthy of free and generous men; within a century of Chagatái's death the Khans had entirely forsaken the desert tribes to visit and linger in the luxuriant plains of Máwará-un-nahr. In the end they became mere puppets in the hands of Amírs until Timur finally reduced their authority still further. Fratricidal wars, constantly waged, ruined their rich provinces.

Borák invaded Khurasán; Dua (son of Borák) the Panjáb. Dua's son reached Delhi, and for many years the headquarters of the horde was at Ghazní, periodically sacking Peshawar, Lahore, and Multán. Borák, great-grandson of Chaghatái, divided Máwará-un-nahr with Káídú (grandson of Oktai), who was recognised as the Khákán of the Mongols. He for twenty years kept up hostilities against Kubalái, who had succeeded to the home clans. He had to keep an army of 100,000 horse on Káídú's frontier. A great battle is said to have taken place at Almálík in 1276; another was fought in 1301 between Karákorum and the River Timir. The eighth supreme Khan, Buyantu, of Chagatái's successors, endeavoured to indemnify himself for losses in the east by annexing Khurasán. Herát was occupied in 1315: this invasion was followed by a counter-invasion, the Ilkhán of Persia sacking Samarkand and Bukhára.

About this time the star of the Chaghatáis began rapidly to decline in power, and the Khanate broke up into at least two divisions, with rival or separate Khans, one of whom governed the eastern portion and Kashgar, the other ruling in Máwará-un-nahr. The former kingdom was the one known to the Persian historians of Timur and his successors as Mughalistán;—not to be confounded with Mongolia to the eastward again. Their winter capital was perhaps originally at Kashgar or Yarkand, and afterwards at Aksu;

their summer quarters in Zungaria, north of the Tian-shan.¹ The royal residence was called Aymul Guja, when Timur took it in 1339 (791 H.), and is represented by the present Chinese frontier town of Chuguchak or Tarbagatai on the Imíl, a river flowing into the Aka-kul. It is difficult, as Colonel Yule points out, to understand any disposition of the frontier between the two branches, that could permit the capital of the one ruling over Kashgar and Úigúria to be as above indicated, whilst that ruling over Máwará-un-nahr had its capital at Almálík. It is possible that Imíl, or Aymul, did not become the headquarters of the eastern branch till the western Chaghatáis had lost their hold of the valley of the Ili, but it must also be remembered that the limits to all such divisions were tribal rather than territorial.

To first briefly notice the eastern branch known as the Khans of Mughalistán and the Amírs of Kashgar.

Káidú died in 1301; Tughlak Timur Khan succeeded to Mughalistán in 1347. After Khizr Khwájá Khan, the history of the remainder of the Mughalistán Khans and of the Amírs of Kashgar belongs to the period of Timur and his successors.

The Khans of the western division of the empire still resided at Almálík; their influence rapidly declined and passed into the hands of the Amírs.

Tarmáshirín is said to have invaded Khurasán and advanced to Ghazní in 1325. He is supposed to have penetrated into India as far as Mirat.

Timur not only pulled down the degenerate successors of Chagatái in Máwará-un-nahr and carried a successful war to Almálík and the eastern fortresses of Mughalistán, but destroyed the whole edifice of Mughal race in Asia, to reconstruct out of it an empire almost as extensive as that of Chengiz.

Timur was born in May 1336 at Kesh or Shahar-i-sabz; his father was the chief of the Turkish tribe of Berlas, a clan that owed allegiance to the family of Chagatái; he was himself connected with the family of Chengiz on his mother's side. Timur did good service under the Amír Kurgen ruler of the trans-Oxus regions, reducing Herát to subjection.

In 1360 Tughlak Timur, ruler of the country of Jits, a remote region washed by the northern waters of the Aral Sea, and between the Jaxartes and Irtish of the Kipcháks, laid waste the Máwará-un-nahr, or trans-Oxus provinces, and left Timur to rule over them. After many vicissitudes of fortune, in 1365 he gained supremacy in Samarkand. During the next eleven years he was engaged in settling his government and in conquering Kandahar, Kabul, Khurasán and portions of the Kipchák; he suppressed Toktamish and disintegrated the Golden Horde, of which he, as descendant of Chengiz and the ruler of the Kipchák, was the representative. In 1390, after conquering much of Persia, Timur invaded the Kipchák and crushed the power of the Golden Horde. In 1392 he invaded Mazan-

¹ Yule's *Cathay*, Vol. II, p. 524. See also *The Russians in Central Asia*, p. 69. "The Tchete Moguls are not to be confounded with the Mongols, as they were Muslims and spoke Turkish."

darán and Mesopotamia; traversing the Kipchák, he advanced to Astrakhán. In 1398-99 he invaded India and devastated as far as Delhi. In 1400 he overran Syria, and in 1402 overthrew the Ottoman Empire, when his empire extended from the Irtish to the Persian Gulf and the Bosphorus. He was preparing to reconquer China in 1405, at the age of 69 years.

The Usbaks were gradually formed into a nation after the breaking up of the Golden and Jagathai hordes; they are of Turko-Tatar or Altaic origin possibly. They first took a leading part in the affairs of Máwará-un-nahr after the death of Timur and his grandson Úlugh Beg. Descendants of Shaibani, brother of Batu, Khan of Kipchák, Khan of Tura, permanently conquered Bukhára, Samarkand, and Khiva in 1460-70. It remained in Usbak possession until the invasion of Nadir Shah, two centuries later.

Baber succeeded to the throne of Farghána in 1495; in 1497 Samarkand was added to his domains, and held till driven out in 1501 by the Usbaks under Shaibani Khan; regaining possession of Kabul, and aided by Persia, he regained Samarkand in 1511. In 1514 he was utterly defeated by the Usbaks and driven back upon Kabul. In 1521 he conquered India and held it till his death in 1530, reigning at Agra.

Mr. Bryce argues that wherever the Central Asiatic race came down to the west or south they got separated from the original stock. The hordes of invaders in the times of the Huns, Chenghis Khan and Timur, seldom maintained their connection with the centre.

This severance he considers due to physical barriers. But in the east they conquered China, and their connection is maintained because there is no such barrier between the great central plateau of Asia and the valleys of Central Asia and China, as there is in the west, or as the mountains in the south, and to this day China rules there. The connection between them and China is maintained, whereas the connection between Central Asia and the rest of Asia came to an end, and in most cases came to an end very soon.

Sir F. Goldsmith points out that Russia's onward movement has gone far to ignore any natural barriers or separations. If a series of steppes and open deserts are the main features of the vast region between Orenburg and Kizil Kum, the geography of the lands to the eastward is of quite a different character. But whether at the Tajan and Murghab, or at the Pamir and sources of the Oxus, there is no trace of "severance from the original stock."

The Muscovite, he argues, is as much a Muscovite in Tashkand as in Tula, and serves the Tzar with the same blind devotion at Khokand as in Kazan.

In Russian Central Asia there is no severance from the original stock. Russia has no native army.

The most valued portion of the inheritance of Chengiz has now fallen to Russia; Máwará-un-nahr, the Kipchák, Khiva and Merv, were the vantage-ground whence his conquering descendants streamed to occupy Khurasán, Afghanistán, northern Persia, and India. Of the conquerors of India, Baber alone used the Hindu-Kush. The Oxus base, the many and easy passes over the Hindu-Kush, and proximity to Kabul, now favour

Russia has succeeded to the inheritance of Chengiz.

this latter line and greatly increase its relative importance to the Herát line of invasion.

Kabul is the historic centre of Afghánistán and an intermediate base for the conquest of India, just as the Oxus line is a base for the conquest of Kabul, the stepping-stone being Balkh.

One cannot read the short history here given without being struck by the very insignificant part played in Central Asian affairs, except as victims, by Khurasán, Afghánistán, and India. The lessons of history are pregnant with instruction, and cannot be ignored; the position of Russia in Central Asia is one to strike awe into the mind of every Asiatic; with him the memories of Chengiz and Timur and Baber live. To ignore their power to kindle enthusiasm or the advantages of Russia's position is most unwise.

The prestige of the Empress of India alone in the East, as the inheritrix of the Mogul Empire, can compare with that of the Czar of Russia as the successor to the kingdom of Chengiz. History shows that the dominion of the latter Khakan was the stronger. (*See page 511.*)

Chinese repression, the killing of male infants if more than two are born, many becoming Lamas, cause the Mongols to dwindle yearly, and the progenitors of the Moguls, Seljuk or Turkish Ottomans, the Russian Tartars and the Magyar race, have become almost extinct; the great cities of the numerous peoples of Tura are now covered with sterile sands, the rivers are dried up, the deserts treeless and trackless. (*See pages 313 et seq.* for descriptions of Mongolia, the Mongols, and their peculiarities.) Some believe their ancient spirit to be dead. It is more possibly dormant only, and but requires to be rekindled amongst the most representative of them—the Khalkas for instance—to break into flame. (*See pages 313, 625 et seq.*)

HISTORY OF KASHGARIA—*continued.*

Until the middle of the fourteenth century, when Kashgaria became united under Tugluk Timur Khan (*see Mongol dominion. page 442*), it was subject to continual civil wars. He embraced Muhammadanism, and at the end of the fourteenth century the Muhammadan creed (Sunni doctrine) became predominant throughout eastern Turkistán, supplanting Buddhism.

Tugluk Timur removed his capital from Aksu to Kashgar, and annexed Bukhára. After his death the country was again thrown into disorder.

Towards the end of the fourteenth century Tamarlane laid waste the Tian-shan mountain system from Lake Zaisan to Kashgar and a portion of the plains, putting its inhabitants to the sword in considerable numbers. The valley of the Yulduz was the meeting-place of his armies. Kashgaria was left plundered and impoverished to such an extent that it has never since recovered the blow.

The history of Kashgaria, from the fifteenth to the eighteenth century, affords an unbroken record of civil war between two religious parties, a struggle of which now the Chinese, and now the neighbouring nomads, took advantage to seize the country for themselves.

The history of Kashgaria from the 15th to the 18th century.

Finally, the history of the nineteenth century tells us of the termination of the struggle for independence between the Kashgarians on the one hand and the Chinese on the other. Several times, supported by Musulman adventurers from western Turkistán, the Kashgarians got the upper hand, and destroyed, almost to a man, the Chinese garrisons and the Chinese settlers; but each time again the Chinese with unchanging patience got the best of it, and signalled their return to power by a series of executions and exactions.

During the fifteenth and sixteenth centuries, Kashgaria was ruled by the numerous descendants of Tugluk Timur Khan. The administrations of these successors were famous only for their constant struggles together for supremacy. Several times Kashgaria became divided into two independent states, each with its capital at Kashgar and Aksu respectively. The power of these Khans of Mongol race was not particularly lasting, for they in fact often held vassalship to the Uzbak Khans, who at this time reigned in Bukhára, Samarkand, Kokand, and Tashkend. The increase of the power of the Uzbak Khans in western Turkistán (in Máwará-un-nahr) always betokened the decrease of the power of the Mongol Khans in eastern Turkistán. The nomads of the Tian shan always seized the opportunity of the outbreak of dissensions amongst the latter to interfere in the civil war, in which they would espouse the cause of one pretender or the other. Not content with plundering Kashgaria, they would carry their raids as far as Kokan and Tashkend. These facts gave the Uzbaks the excuse for interfering in the affairs of eastern Turkistán. Thus it was that, in the fifteenth century, under the guise of punishing the nomad Mongols, they sent an army from Samarkand and occupied Kashgar.

Of all the sons of Chengiz who ruled Kashgaria during the fifteenth and sixteenth centuries, the reign of none was more famous than Sultan Said. He succeeded not only in subjugating the nomads of northern Tian-shan, but in securing his frontier to the south and west on the side of Kashmir and of Badakhshán. Besides that, in 1531-33 he marched against Tibet with 5,000 men. The approach of winter obliged Sultan Said to halt, for he found it impossible to provision his army. He therefore sent his son Iskander, with 4,000 men, into winter quarters in Kashmir, and he himself remained with the remaining 1,000 in the neighbourhood of Balti. When summer came, Sultan Said once more joined his forces and continued his march to Lhassa, of which he took possession. On the return march to his capital he died not far from the Karákorum pass. His death was caused by the action of the rarefied atmosphere. This was a Ghazavat campaign, *i.e.*, a war against the infidel.

It served as the commencement of endless wars entered into by the Khwájás, or leaders of two religious sects that appeared at this time in Kashgaria.

Religious tolerance prevailed in eastern Turkistán up to the seventeenth century; Buddhism, Muhammadanism, and Christianity were in vogue.

Tolerance.

The Uzbak Khans of western Turkistán and the Mongol Khans in eastern Turkistán.

Sultan Said, son of Chengiz Khan.

Appearance of the Khwájás.

In the fourteenth and fifteenth centuries Bukhára and Samarkand became centres of Musulman leaning. In the fifteenth century intolerance spread thence to Kashgaria, and the bigotry engendered bloody wars and economic paralysis which, coupled with her wars with China, brought Kashgaria to her present condition. Two sects were formed, known as the Ak-Taulins (the White Mountaineers) and Kara-Taulins (the Black Mountaineers), divisions which still exist. The leaders of either spiritual party sought for political authority, and, in pursuit of this, they not only divided the country into two hostile camps, but from personal motives gave it first into the hands of the Zungars and then of the Chinese.

Appak Khwájá, head of the Ak-Taulins, quarrelled with Khan Ishmail, Chengiz Khan's youngest son, the ruler of the country. He obtained the support of the Dalai Lama, the spiritual leader of all Asiatic Buddhists, and, moreover, from purely personal motives, yielded up his native land to the yoke of the Zungars, who seized Kashgaria in the year 1678, and held it for 78 years, *i.e.*, until they gave place to the Chinese, who were likewise invited by Burkhan-Eddin, one of the White Mountain Khwájás.

The Zungars, or Kalmuks, call themselves a Mongol race and then dwelt in the valleys of the Rivers Ili, Tekes, Kunges, and the two Yulduz.

Taking advantage of the fall of the Mongol dynasty of Han in China, the Zungars, in the beginning of the seventeenth century, concluded an alliance, at the head of which they placed Haldan-Bokoshta, a Khan of the Tchoross line. He incorporated in his dominions the Mongol branch of Olëts, and after that the Zungars for some time called themselves Olëts, and their Khans Oirats.

During the administration of the Khan Haldan-Bokoshta, the Zungar sovereignty embraced the vast country bordered on the north by Siberia, on the east by the possessions of the Mongol Khan of the Khalkhas tribe, on the west by the Kirghiz steppes as far as Lake Balkash, and, lastly, on the south by eastern Turkistán (*i.e.*, by the line of Kucha, Karashahar, and Kunga-Turfan.) (*See pages 369 et seq.*)

The Zungars (Kalmuks) were at this time divided into four tribes, *viz*, the Tchoross and Torgouts, the Khoshouts and Durbats. This division has been preserved to the present day. Each tribe is ruled by its own Khan, subject to the authority of the Tchoross Khan, who is over all.

The period of the independent existence of the Zungar sovereignty was taken up with endless wars with the Chinese, but these wars did not hinder the Zungars from adding eastern Turkistán and also Tibet to their dominions.

Later on, the Chinese seized the opportunity of internal dissensions in Zungaria, and possessed themselves without bloodshed of the above countries; thanks to the treachery of the Kalmuk leader, Amursana,

Result of intolerance.

Haldan-Bokoshta.

Extent of the Zungar dominion in the time of Haldan-Bokoshta.

Divisions amongst the Zungars.

Repeated wars between the Zungars and the Chinese.

Amursana treacherously hands over Zungaria to the Chinese.

During the rule of the Tchoross Khans in Zungaria, and especially of Haldan-Bokoshta, the country enjoyed great prosperity. Huge herds of camels, of horses, and of sheep covered the rich pastures in the valleys of the eastern Tian-shan.

Prosperity of Zungaria under the Tchoross Khans.

The capital of the country was at Ili, whence the Khans governed their numerous nomad subjects.

Ili, the capital of Zungaria.

Appak Khawja's intrigues.

Appak Khwájá, with the advice of the Dalai-Lama of Llassa, turned for aid to Haldan-Bokoshta against the Khan of Kashgar, Ismail, the leader of the party opposed to his own. Khan Haldan immediately availed himself of so favourable an opportunity for interfering, and in 1678 took possession of Kashgaria. He appointed Appak as his deputy, and returned himself to the River Ili, taking with him as prisoners the family of the Kashgar Khan.

Haldan received a tribute of 400,000 tengas a month (500,000 roubles, or £62,500 a year). Appak Khwájá, seeking to free himself from the stigma attached to him as betrayer of his country, invited the brother of Khan Ismail to Kashgaria—a step which led on both to his death and to bloody struggles between the Khwájás, until the Chinese, by taking possession of the country, put an end for a time (till 1825) to civil war.

In 1720 Tsapan Raptan, who succeeded Haldan-Bokoshta on the Zungar throne, assigned the administration of the six towns of Kashgaria to Daniel Khwájá. They were—Kashgar, Yangi-Hissar, Yarkand (capital), Khotan, Aksu, and Kucha. On his death his eldest son received Yarkand, his second Kashgar, his third Aksu, and his fourth, Yunus Khwájá, Khotan.

On the death of Haldan Shirín, internal dissensions caused Amursana, a distant relation, and chief of one of the Kalmuk tribes, to declare himself and his tribe in 1774 a Chinese subject; and a Chinese army being sent into the country, Amursana succeeded in persuading the chiefs of the Kalmuk tribes to go over to the Chinese without fighting.

By intrigue with the Khwájás of Kashgaria, Amursana, after a bloody war, conducted by Burkhan-Eddin of the Ak-Taulins, who had acknowledged their fealty to China, was the means of adding Kashgaria to their dominions, and thus the Chinese were enabled to obtain in a few years, with very insignificant means, dominion over two vast states. The advantage attained by the Chinese in the conquest of Kashgaria, and of Zungaria, consisted in the better security of the western frontiers of China; but, above all, in the opening out of markets for the sale of Chinese products, and especially tea.

The Chinese, by not maintaining a sufficient army in these countries, held very insecure tenure of both. In 1757 rebellion broke out in both. A Chinese army reoccupied Zungaria without opposition, but in 1758

Zungaria and Kashgaria.

partial risings caused a terrible slaughter of Kalmuks, without respect of age or sex; about 1,000,000 persons perished.

Partition of Zungaria. (See page 376.) The Zungar sovereignty now ceased to exist, and it became parcelled out into seven circles. Of these, Ili, Tarbagatai, and Kur-kara-usu formed the province of Ili. Barkul and Ürumchi were added to the province of Kansuh, and the other two circles, Kobdo and Ulya-sutai, received a separate administration. On the site of the Zungar Khan's place of abode, the Chinese built the town of Kulja, and introduced into the country military settlers of Mongol races, soldiers of the green standard, from the frontiers of Manchuria, Sibs, Solons, and Daur. Criminals and vagabonds who possessed no lands in China also emigrated to the same place.

The Chinese build the town of Kuldja.

To this period in all probability belongs the deportation by the Chinese of Mussulmans, known under the name of Dungans, from their western provinces, Kansuh and Shansi, into Zungaria. Besides this, during the year 1771, the greater portion of those Kalmuks who had gone to Russia in the beginning of the seventeenth century with Khan Ho-uluk returned to Kashgaria. Finally, the Chinese, during the last collisions

Chinese Mussulmans or Dungans.

with eastern Turkistán, deported a portion of the population of that country to Zungaria, where they became known under the name of Tarantchis.

The Tarantchis.

After the subjugation of Zungaria the Chinese at once turned their arms against Kashgaria with the object of putting down the rebellion that was taking place therein, or, to speak more correctly, with the object of conquering the country, since the campaign of Burkhan-eddin, with a few hundred Chinese and Kalmuks, had not yet obliged the population to acknowledge for all time the hated Chinese supremacy. The result of the campaign was the reoccupation of the country by the Chinese and its thorough conquest (1758). The weak opposition made to them shows how meagre was the patriotism and bravery of its population, and also how dissatisfied that population was with the rule of the Khwájás. It may be supposed that the people who surrendered large towns to their enemies without a fight, counted on the attainment of quiet in exchange for subjection to a foreign and hated dominion—a quiet such as the inhabitants of Kashgaria had been long without.

The Chinese again march against Kashgaria.

Kashgaria then (1758) consisted of 13 small towns and 16,000 villages and farm-houses, besides the Alti-shahar. A census of Kashgaria showed that there were in it 50,000 to 60,000 families, 375,000 souls, besides those who had taken flight with the Khwájás, and, besides, 12,000 political offenders, condemned to exile at Ili, and who were employed in agricultural operations. During the reign of the last Khwájá, Kashgaria paid as tribute to the Zungars but 20,000 ounces of silver and 2,564 batmans of bread.

In 1765 a rebellion took place in the town of Uch-Turfan, caused by the severity and looseness of the Chinese officials. Its inhabitants were defeated and massacred by the Chinese.

Depopulation.

For sixty years peace reigned: in 1825 Khwájá-Jhángir, with a handful of men, destroyed, in a few months, what had been accomplished by the Chinese in sixty-one years.

The people were allowed non-interference in their religion, their tribunals, and customs; the Khwájás were executed. Twelve thousand five hundred persons were banished to Ili as political offenders, and their lands confiscated to the state. Small garrisons were scattered throughout the country, divided into circles for administrative purposes. Taxes, and the method of their collection, and administration of justice, remained as in the time of the Khwájás.

The population of Kashgaria for the period from 1760 to 1825 may be assumed to have been —

	Souls.	Souls.
In the Kashgar Circle	100,000	to 150,000
„ Yarkand „	200,000	„ 400,000
„ Khotan „	100,000	„ 700,000
„ Aksu „	150,000	„ 200,000
„ Kucha „	25,000	„ 50,000
TOTAL	575,000	to 1,500,000

The amount of the taxes paid yearly by the inhabitants between the dates above given was as follows: Kashgar Circle, 72,000 roubles (£9,000); 170,000 poods (6,120,600lb) of grain; 10,000 pieces of mata. Yarkand Circle, 80,000 roubles (£10,000); 60,000 pieces of mata; 1,400 woollen bags; 1,300 hanks of rope; 3,000 jins (110 poods, or 3,960lb) of copper; and 15,000 jins of cotton. Kucha Circle, 24,000 poods of grain; 1,080 jins (27 poods, or 927lb) of copper; 200 jins (7½ poods, or 270lb) of saltpetre; and 300 jins (11 poods or 396lb) of brimstone.

On turning the value of these products into money, we shall find that the taxes of the Kashgar and Yarkand Circles together amounted to 190,000 roubles (£27,250), and taking the taxes of the Aksu, Khotan, and Kucha Circles at the approximate value of 210,000 roubles (£26,250), we shall arrive at an average of 400,000 roubles (£50,000), or 300,000 roubles (£37,500) in money and 100,000 roubles (£12,500) in products.

The Chinese devoted the whole of the taxes which they raised in Kashgaria to the maintenance of their garrisons, and to the general administration of that country.

They exported from Kashgaria to Kuldja only mata, copper, brimstone, and saltpetre.

The total strength of the forces which the Chinese kept up in Kashgaria can only be approximately given. The strength of the garrisons of the several towns was as follows:—

In Kashgar from	6,000	to	10,000	men.
„ Yarkand „	2,000	„	3,000	„
„ Khotan „	2,000	„	3,000	„
„ Aksu „	3,000	„	4,000	„
„ other places „	4,000	„	5,000	„
TOTAL	17,000	to	25,000	men.

To these troops, composed of Chinese and Manchu, must be added the regiments recruited from the Dungans. The number of these was from 10,000 to 15,000. Therefore, the total number of Chinese troops in the country amounted to from 27,000 to 40,000 men. The principal part of the Chinese forces consisted of infantry, armed with bows or with flint muskets.

Certain degrading marks of respect were exacted: all Musul-
Marks of respect re-quired by Chinese officials. mans had to dismount on meeting a Chinese official in the streets; during the Amban's tour round the city, all had to kneel, and if the Ambans went to a pagoda all the Musulman officials had to kneel at the entrance, with their arms folded behind the back.

Having conquered Zungaria and Kashgaria with such ease, the
Further progress by the Chinese. Chinese now became bellicose. During the years 1756, 1758, and 1760, their forces penetrated to the steppes of the Middle Horde and compelled the Khans of that horde to acknowledge Chinese sovereignty. After that, both the Khans of the Lesser Horde and the Elders of the Burut section of the Kara-Kirghiz, following the example of the Middle Horde, acknowledged the same supremacy, and were then obliged to pay a yearly tribute of one horse and one ox in every hundred, and one sheep in every thousand. In order to collect this tax, the Chinese despatched yearly four detachments, whose duty it was also to uphold Chinese influence in the Kirghiz country.

Two detachments were sent from Ili, one from Tarbagatai, and
Routes taken by the Chinese detachments. one from Kashgar. The Tarbagatai detachment united with one of the two from Ili in the valley of Ayaguz (between Kopal and Sergiapol). The second detachment from Ili then united with the detachment from Kashgar in the valley of Narin. These detachments, having exchanged the tribute collected, returned homewards. Chinese merchants generally accompanied these forces in order to barter their wares for cattle, taking care, of course, to profit by the exchange with the semi-barbarous Kirghiz.

After the Kirghiz Khans, the Kokan rulers, Erdenya Bái and his
The Kirghiz Khans acknowledge the sovereignty of the Chinese. heir, Narbuta Bái, declared themselves under the protectorate of the Bogdi Khan. Such swift successes caused the Chinese to be regarded as invincible, and made their name terrible throughout Central Asia.

It may be supposed, too, that amongst the Chinese themselves
The Chinese contemplate the conquest of Bukhara, Samarkand, and Tashkend. there arose such an amount of self-confidence that they seriously began to think of the conquest of Bukhára, Samarkand, and Tashkend. Tidings of the preparations for this campaign quickly reached the Central Asian Khans, and made them, in regard to the threatening position assumed by a common enemy, forget their own quarrels. They formed, therefore, an alliance, which was joined also by Ahmat Shah, the ruler of Afghánistán.

To all Musulman potentates a summons went forth inviting them to participate in the *ghazá*, or holy war, *i.e.*, a war for the faith against the infidel. An alliance was thus concluded in the year 1763, and in the same year the Afghán forces reached Khodjent.

An alliance is formed between the rulers of these places and the ruler of Afghanistan against the Chinese.

But the league which had been formed soon broke up. The Afgháns were obliged to return to their own country, and the remaining chiefs considered themselves too weak to enter upon a struggle with such a powerful foe. The towns of Uch-Turfan and Badakhshán alone held out.

This league is broken up.

The first, having trusted in the promised aid, rebelled, and its inhabitants were slain, as we have already related, by the Chinese forces. With regard to Badakhshán, that beautiful country was devastated by the Afghán forces, and its ruler, Sultán Shah, was executed, because he not only refused to give refuge to those Khwájás who fled from Kashgaria during the siege of the town of Khotan by the Chinese (in the year 1758), but because he also killed two of the Khwájás, who were taken prisoners, and sent their heads to Peking.

Massacre by the Chinese of the inhabitants of Uch-Turfan and devastation of Badakhshan by the Afghan forces.

The Chinese, perceiving the weakness of the Central Asian rulers, raised their heads still higher. The wise policy adopted towards the conquered people and the administration of the country on the system first founded ceased by degrees to be considered indispensable. Amongst mistakes, too, that were committed must be classed the appointment to the town of Kashgaria of a Hakim-Beg and other officials from the western provinces, and the compelling the people to erect, without payment, vast fortifications called *gul baghs* for the occupancy of the Chinese garrisons.

Mistakes committed by the Chinese in the administration of Kashgaria.

The officials introduced from the western provinces of China, from the towns of Hami and Kunya-Turfan, came with the intention of gaining a lucrative livelihood, and they did not shrink from employing every means to attain this object. From the Hakim-Beg down to the lowest official, all looked upon the people as on a milch cow, and they behaved as bad owners who desired their cow to give more milk than was in its power to give. The flagrant plundering on the part of the Hakim-Beg was known to the Chinese authorities, and since they permitted him to continue it, they, in all probability, themselves benefited by his actions. The extremely luxurious style of living in vogue amongst Chinese officials also gives us the right to think that the plundering of the people which they carried on brought to each one of them considerable material gains. Every protest and every act of disobedience was punished by death, and so the people became still more exasperated. The more energetic amongst the population began to emigrate to Kokan, Bukhára, and Tashkend, where, by their stories of the excesses of the Chinese, they everywhere excited sympathy for their native land.

In 1816, the Khwájás who had found a refuge in Kokan began to disturb the peace of Kashgaria, whereupon the Chinese entered

into an arrangement with the Khan of Kokan for the suppression of all the Khwájás in his territory.

In 1826, Jhángir Khwájá obtained considerable successes, occupying Kashgar, Yangi-Hissar, Yarkand, Khotan, slaying the Chinese garrisons. In 1827 a Chinese army, having collected at Aksu, drove him into the mountains, where two columns pursued him, one moving to the Altai, thence by Ulugchat and the Ton Murun pass, the other by the town of Oopal, Lake Sari-kul, and the Kizil-art pass. He was given up by treachery, taken to Peking, and executed.

Executions, plunderings, confiscations of property followed the revolt, and several thousands of Kashgarians migrated into Kokan territory. To revenge themselves on the Kokanese, a blockade was established, whereby all trade with them ceased. This so affected them that their ruler, Madali Khan, espoused the cause of Med Yusuf, Jhángir's eldest brother, and, collecting 20,000 Kokanese, 15,000 Tashkendians, &c.,—in all, 40,000 men and 10 guns,—he invaded Kashgaria, captured Yangi-Hissar, Yarkand, Khotan, and Aksu, and occupied them for nine months. Kashgaria, encircled by the Kokan dominions, was constantly threatened by an inroad of Khwájás or a raid of Kara-Kirghiz. Feeling themselves in no position to fight with Kokan, in 1831 a treaty of peace was concluded with them by the Chinese, the favourable terms of which show how much the Khwájás were feared by them. By it they secured a peaceful administration in Kashgaria for fifteen years.

In 1847 the weakening of the Kokanese Government under the infant Khudoyar Khan led to internal commotions, taking advantage of which Katta Tura and six Khwájás fled from Khokan, and gained over the town of Kashgar by intrigue with the Kokanese Aksakál, slaying the Chinese merchants, plundering their goods, and appropriating their harems.

The Chinese collected an army from Kuldja, Urumchi, and Lian-chau, numbering 200,000 men, and marched to Fort Maral Bashi. Fearing to encounter it with a motley gathering of 18,000 men, the Khwájás fled the country, and with them 20,000 families from Aksu, Kashgar, and Yarkand.

The flight which took place in the month of January, chiefly by the Terek Davan pass, was accompanied by great loss of life from severe cold.

The Chinese again re-established their authority in Kashgaria, and displayed their weakness by renewing their treaty with the Kokanese.

Re-establishment of Chinese authority.

In 1857 Wálikhan Turya occupied Kashgar; on the inhabitants rising, he massacred the Chinese garrison and the Chinese merchants. Surrounding himself with Kokanese, he treated the natives with disdain, imposed on them heavy taxes, exacted of them labour on earthworks, and introduced social reforms most distasteful to the people; forbidding their women from appearing with unveiled faces, to wear plaited hair, and directing the men to wear turbans, to attend the mosque five times a day, and displaying great cruelty in their enforcement, executions being of daily occurrence. In 1857 the Chinese re-occu-

ped the city, to the joy of the inhabitants, the Khwájá flying to Kokan, and with him 15,000 families.

The Chinese reprisals were severe : all who had participated in the rebellion were killed ; property was confiscated, &c. The Kalmuks were especially fore-

Depopulation.

most in the perpetration of every kind of cruelty.

Thus ended the fourth attempt of the Khwájás to restore their sovereignty in Kashgaria. On this occasion

End of the fourth attempt on the part of the Khwajas to set up their dynasty in Kashgaria.

the attempt only led to still greater loss to the country, and to the execution of several thousand people, who were, for the most part,

innocent. On this occasion, too, the principal offenders and participators saved themselves, and carried off their plunder, leaving the people, whom they had deceived, as victims in the hands of the Chinese.

After driving out Wálikhan Turya in 1857, and again possessing

Musulman insurrection in the western provinces of China and in Zungaria and Kashgaria.

themselves of the whole of Kashgaria, the Chinese did not long enjoy their victory. The Musul-

man insurrection in the western provinces of China—Shensi and Kansuh—quickly spread until it embraced the whole of Zungaria, and afterwards in 1862-63, Kashgaria. The Chinese were in a desperate condition. Many hundreds of thousands of them perished, and yet, with unconquerable obstinacy, they, step by step, during the course of thirteen years, put down an insurrection that had spread from the Wei valley to Ili and Khotan. In the year 1877 their armies besieged the town of Urumtcha, and opened a campaign against Yákúb Beg, their most talented and powerful opponent, who had ruled the events of the previous thirteen years.

The Musulman population of Western China is grouped in the pro-

Musulman population of China.

Its origin.

vinces of Shensi and Kansuh, and numbers over 5,000,000 souls. The origin of these Musulmans is variously accounted for. According to some,

the date of their settling in the provinces of China goes back to the eighth or ninth century, when the Chinese, after subduing the Úighúr state, deported 1,000,000 souls to their deserted western provinces. In course of time, these Úighúrs embraced the Musulman faith, lost, through intermarriage with Chinese damsels, their primitive type, and now but little resemble their kinsmen who remained in Kashgaria. The same Musulmans who peopled the western provinces of China afterwards formed the bulk of the people of Zungaria, and settled in the towns of Tchugutchak, Kuldja, Manas, Urumcha, Kunya-Turfan, Barkul, and Hami. The people of Kashgaria, who are alien to these Chinese Musulmans, begin on the west of Fort Karashahar and the town of Kurlia. They take the name of the locality in which they dwell ; thus, we find Karashaharians, Kuchans, Aksutians, Kashgarians, Yarkandians, and Khotanese. The Chinese call their Musulmans Hoi-hoi-tsian. (*See pages 298 et seq. and 378.*)

In Kashgaria, the same Chinese Musulmans are known under

Name given to the Musulman insurrection in the Chinese provinces and the supposed derivation of that name.

the name of Dungans, and the insurrection which they initiated is called the "Dungan insurrection." The derivation of the word "Dungan" is not exactly known. According to oral

tradition which I heard whilst in Kashgaria, the derivation of this name is sometimes traced to the epoch of Alexander of Macedon; at others to the days of Chengiz Khan or of Tamerlane. It is thought, too, that, in the movement of bands of these popular heroes from the east to the west, and from the west to the east, many of their soldiers remained both in Zungaria and in the provinces of Shensi and Kansuh, and, consequently, received the name of Turgan, which means "those left behind."

The rising began in the year 1861, during the last year of the rule of Sian-Fwin, in the province of Shensi, and from there it spread, first to the province of Kansuh and thence to Zungaria.

The insurrection was signalled by the dreadful, and in places the total, destruction of the Chinese. The first attempts of the Chinese Government to put it down were not attended by success. On account of the extortions of the officials, and the privations to which they were subjected, the Chinese detachments would sometimes go over to the side of the insurgents. The Chinese garrisons, for fear of being massacred, one after the other, were obliged to shut themselves up in the citadels, and the insurgents, who were thus free to pour over the whole of the disaffected country, everywhere slaughtered the Chinese population. The hatred against the Chinese was so great that, according to Mons. Sosnovski, Musulmans would themselves slay their own wives and children, to prevent them falling into the hands of the Chinese. The same author tells us that the Chinese amply repaid the debt, for they mercilessly wiped out their enemies. On the occasion of the siege of the town of Ho-chow, which lasted for seven months, 20,000 men were put to the sword by the Chinese, on the fall of the place. Similarly, at Si-nin-fu, and at Gur-ki-pu, there were slain 9,000 and 50,000 men respectively, whilst a vast, a fruitful, and a thickly-populated tract was turned into a desert. Rich towns became heaps of ruins.

The action of the Chinese became energetic and swift only from the date of appointment in 1868 of Tso-Tsun-Chinese. Tang as Governor General of the provinces of Kansuh, Shensi, and Zungaria. Being aware, as Mons. Sosnovski tells us, that disorder principally proceeds from extortion, he selected trustworthy officials and made his soldiers contented, and built a factory at Lan-chow-fu, where they turned out breech-loading steel guns and rifles on the newest system. The centres of the insurrection were one by one occupied by Chinese forces; and in January of the following year the road from Lan-chow *via* Hami and Gu-chen to Tchugutchak presented an unbroken line of Chinese forts, whilst the rising in the provinces was crushed, except that small bands of Dungans continued to wander about.

The tidings of the success of the insurrection of the Chinese Mus-ulmans in Zungaria, Shensi, and Kansuh, quickly spread to Kashgaria, and caused the population of that country to rise against the Chinese. The Chinese garrisons were weak, and, what was more important, were principally

composed of Dungan soldiers, who, on the first intelligence of the rebellion of their kinsfolk, took up arms against their employers, and, with the aid of the local population, massacred the greater part of those Chinese who did not contrive to shut themselves up in citadels. The rebellion was first discovered in the town of Kucha. One of

Rashíddín Khwája.

the inhabitants of this town, Rashíddín Khwájá, who was the first to proclaim a *ghazávat*, or holy war, in the year 1862, collected the people, and placing himself at their head conducted an attack on the Chinese garrisons. The Chinese were slain, whereupon Rashíddín sent his emissaries to all the towns of Kashgaria to get up a war against them. The Dungans joined the insurrection, and with their aid the Chinese garrisons in the towns of Kashgar, Togsun, and Kunya-turfan were slaughtered. The people then recognised Rashíddín's sovereignty and proclaimed him Khan. Isa Khwájá, Rashíddín's relative, was appointed Governor of the towns above mentioned. Rashíddín's two other relatives, Djalat-eddín Khwájá and Burkhan-eddín Khwájá, set out for the towns of Aksu, Kashgar, Yarkand, and Khotan, in order to exact from them Rashíddín's title of Khan. Before their arrival an insurrection had burst forth, and the Chinese garrisons had shut themselves up in the citadels. The people of Aksu were the first to recognise Rashíddín's title. One Sádik Beg, of Kipchák origin,

Sádik Beg.

was at that time an influential person in the town of Kashgar. After going out with his adherents to meet the Khwájás, he recognised Rashíddín as Khan, and his example was followed by all the inhabitants of the town of Kashgar. Having appointed Sádik Khan, Hakim of the town, the Khwájás continued their journey to Yarkand.

Now, the Hakim of Yarkand, who had been appointed by the Chinese, was Níáz Beg. A great part fell to the lot of this man in the later revolutions that took

Níáz Beg.

place in Kashgaria.

The commander of the Chinese forces composing the garrison of

Action of the Chinese military commander at Yarkand.

Yarkand, perceiving the murmuring both amongst the inhabitants of the town and the Dungan soldiers who formed part of the garrison, decided upon disarming the latter. News of this intention quickly reached the Dungans, and caused

Its effect.

them to rise in rebellion. They broke into the citadel at night, which contained the Chinese garrison, consisting of 2,000 men. These they slew, together with their families. A small body of Chinese escaped by beating off their assailants and regaining possession of the citadel. In the morning the Dungans rushed into the town, and, aided by the inhabitants, plundered the houses and the shops of the Chinese, after killing the owners. It was evident, however, that the emis-

Failure of Rashíddín's mission to Yarkand and Khotan.

saries from Aksu obtained no great amount of success in this place, the inhabitants of which chose as their ruler Hazrat Abdurrahman, an old Mullá.

They also appointed as his assistant the former hakim of the town, Níáz Beg. The inhabitants of Khotan followed the example of the Yarkandians, slew the Chinese, and chose as their ruler Habibulla.

who was also a Mullá, and who had lately returned from Mecca. This man assumed the title of *pádsháh* (king), and began to coin money in his own name.

At the close of the year 1863 the only places that the Chinese held in Kashgaria were the citadel of Kashgar, the town of Yangi-Hissar, and the citadel of the town of Yarkand. Against the last-mentioned, detachments from Aksu and Yarkand were sent. To the aid of these detachments went also some Dungans (7,000 Dungans and Kucháris). Nevertheless the citadel long withstood all the efforts of the besiegers, and when all the means of defence had failed, the Chinese commander and all his garrison heroically blew themselves up into the air (winter, 1863). This was also the fate of the garrison of Aksu. (*See page 306.*)

After this victory the Aksu Khwájás again demanded from the Yarkandians the recognition of Rashíddín's authority. The inhabitants would not consent to the demand. At length, after a long dispute, the government was divided between Abdurrahman and the Khwájá Burkhan-eddín. The former was supreme in the town, the latter in the fort, where were quartered the Dungans and some troops from Aksu. This state of things lasted until the time of Yákúb Beg.

In the beginning of the year 1864 Rashíddín's rule was recognised throughout the whole of Kashgaria, with the exception of the town of Khotan.

Rashíddín Khwájá was not the descendant of those Khwájás who had governed Kashgaria, and, we should add, who brought upon her, during the space of forty years, so much calamity (we speak of Jhángir and Wálikhan-Turya). Therefore, amongst the population of Kashgaria, it would have been easy to seek out those who were dissatisfied with Rashíddín, and who wished to place the government of the country in the hands of one of the numerous descendants of Appak Khwájá. Of these Buzruk Khwájá, Jhángir's son, enjoyed the greatest amount of popularity. Amongst the people he was famous for his sanctity and for his kindness, but persons who knew him intimately were aware also of the weakness of his character, and of his complete incapacity. For this reason Sádik Beg, the Hákim of Kashgar, of whom we have already spoken, could confidently reckon on making him a weapon in his own hands for the attainment of his own ends. He at once took advantage of Buzruk Khan's popularity for this purpose. He then turned to Alim Kul, who was at that time Governor of Tashkend and Kokan, and begged him to send Buzruk, who was living at Tashkend, to Kashgaria, promising him easy possession of the entire country. Buzruk lost no time in going, attended by fifty men. With him

Sadik Beg takes advantage of Buzruk Khan's weak character to work to his own ends.

went also Yákúb Beg in the capacity of Lashkar-Báshi, or commander of the forces that were to be formed. Yákúb Beg was the son of an inhabitant of Khojent, and in early life a "*batcha*," or public dancer, who rose to power in Kokan in consequence of his step-sister's marriage, and gained renown by his bravery in fighting against the Russians. The

Yakub Beg.

course of events which led to Yákúb Khan's mission to Kashgaria have already been narrated. Continued disputes arose between the Tunganis or Chinese Muhammadans, and Turks or Chintus, as to whom the chief control of affairs should be given. At times a representative of each people jointly ruled in Yarkand. They were unable to coalesce and anarchy reigned.

At Kashgar the rebels having submitted, the Chinese retired to their fort of Yangi-Shar. The Kirghiz, under Sádik Beg, having gained possession of the Turk city, perpetrated horrible barbarities on its defenders, and proceeded to invest the Chinese town (summer, 1863). To depose Sádik Beg, Alim Kul, the regent of Andijan, sent Buzruk-Khan-Turya, a scion of the old Turkistání royal family.

The insurrection in the meanwhile had spread to Khotan, where Abdul Russúl-Turya (also a scion of old Turkistání royalty) assumed the sovereignty, the Chinese shutting themselves up in their fort and eventually blowing themselves up (summer, 1863). The Tunganis and Kucháris from Yarkand sent an army to capture Khotan, but were defeated by Habibulla, father of Abdurrahman, in whose favour Abdul-Russúl-Turya had resigned the sovereignty (spring, 1864). Thus, when Yákúb Beg arrived in the country in the winter of 1864, Habibulla was reigning at Khotan, Sádik Beg (Kirghiz) was ruling the Turk city of Kashgar, and the Chinese still held the fort of Yangi-Shar. The Tunganis and Kucháris were the dominant parties in Yarkand, but were altogether unable to agree or work together.

Buzruk Khan was gladly received by the inhabitants of Kashgar; Yákúb Beg became Commander-in-Chief of the army, the nucleus of which was formed by 400 Andijans.

The recognition by the inhabitants of Kashgar of Buzruk as Khan, coupled with his pretensions, as descendant of Appak Khwájá, to the sovereignty of the whole of Kashgaria, called forth the opposition of Rashíddín Khwájá, who was ruler of the country to the east of the town of Aksu, whilst Abdurrahman was ruler of Yarkand. The inhabitants of Aksu, Kucha, Yarkand, and Khotan, whilst bearing in mind the inroads of the Khwájás of the Appak clan, Jhángír, Katta-Turya, and Wálikhan-Turya, could scarcely be reckoned on to make a new attempt in favour of Buzruk. Forces, both from Aksu and Yarkand, advanced almost simultaneously on Kashgar with the object of driving out Buzruk, whose position had become critical. It was only owing to the energy of Yákúb

Rashíddín Khwájá opposes Buzruk Khan.

Beg that he was able to hold his own. Leaving a small but well-equipped force to watch the citadel, Yákúb Beg went out to meet the army from Aksu, and, having defeated it at Khan-Arwik, energetically pursued its broken forces up to the hamlet of Yangábád. After this he returned and advanced against the Dungans and Yarkandians, who were still several marches from Kashgar. An engagement took place, nine *tash* from the latter town, at Tuzgun. In speaking of the fight, eye-witnesses have exaggerated the enemy's forces by several thousands of men. According to their accounts, the Dungans approached to within a very short distance of Yákúb

Beg's troops, and then directed against them a well-aimed fire, which caused great loss. Yákúb Beg at once ordered several sotnias of his cavalry to attack the enemy's flanks. Having brought about, by this manœuvre, some degree of confusion, he now moved forward the rest of his troops and won the battle.

Yakub Beg defeats the Aksu and Yarkand troops sent against him.

It is stated that Yákúb Beg received three wounds in this engagement, and that he concealed the fact till the end of the fight, lest he should have depressed the spirit of his soldiers by appearing to be hurt. Following the routed enemy to the town of Yangi Hissar, he

Captures Yangi-Hissar.

took that place by storm after a siege that lasted forty days. The greater part of the inhabitants and of the garrison perished in the siege and in the assault. About 200 soldiers and women and children turned Musulmans, and thereby saved their lives. After the capture of Yangi-Hissar, Yákúb Beg sent envoys, bearing gifts and the news of his victory, to Alim Kul, who was at the time engaged in fighting the Russians; as part of his offerings Yákúb Beg sent nine Chinese damsels. The envoys never even saw Alim Kul, for, before they came to Kokan, the tidings reached them that Alim Kul had been slain on the 9th (21st) May 1865, in a battle with the Russians before Tashkend. The death of Alim Kul called forth new dissensions in Kokan, all of which indirectly served as a means whereby Yákúb Beg's position became still more secured. A large body of Kipcháks fled from Kokan by the Terek-Davan pass. They entered Buzruk's service.

In Kuropatkin's work, pages 167 *et seq.*, it is narrated how Yákúb Beg, gradually putting Buzruk Khan on one side, by treachery and perfidy, during the year 1866-67, united under one sovereignty the circles of Kashgar, Yangi-Hissar, Yarkand, and Khotan, and became Khan, with the title of Badaulat, or "the fortunate one." By treacherously murdering Rashíddín and occupying Kucha, all the towns of that country, with a Kashgarian population, became united.

In a pamphlet by Captain E. Molloy, Officiating British Joint Commissioner, Ladakh, a narrative of the same events will be found.

A boundary line was agreed upon with the Dungan chiefs, which passed through Ushag Tal, 33½ miles to east of Fort Karashahar. This limit is the natural one, and it would have been well had Yákúb Beg not attempted to extend his dominion beyond it. (*See page 386.*)

Limits of Kashgaria.

The Dungans of Kunya-Turfan, Urumcha, and Manas refusing to respect the boundary, advanced in considerable numbers as far as Kucha, sacking Kurlia, and capturing Karashahar and Kucha. The Dungans had received great accessions to their numbers from their co-religionists of Kansuh and Shensi.

Collecting his forces at Aksu, Yákúb Beg advanced on Kucha, defeating the enemy near Bai ching and the hamlet of Rushtam, and occupied Kucha. At Danzil, between Kurlia and Karashahar, they were completely defeated.

The nomad population of the Kurlia circle consisted of several thousand Kalmuks, of the Torgout and Koshut tribes. Since the beginning of the Dungan insurrection these Kalmuks had joined

the rebels, and, in return for their services, had received possession of the fruitful valley of Haidwin Kuya, and of the lands adjoining Lake Bagratch Kul, close to Fort Karashar. (On the maps this lake is *often* incorrectly called Boston-Nor.) The Kalmuks, after pillaging the settled population of Karashahar, took up their abode in the places which they had appropriated. Hearing of Yákúb Beg's advance to the town of Kurlia, the Kalmuks once more pillaged that town and then concealed themselves in the mountains.

When the town of Kurlia fell to Yákúb Beg for the second time the Kalmuks decided on submitting to him. The Kalmuks submit to Yakub Beg. Accordingly, their ruler, a woman of the Torgout tribe, made her appearance in the Badaulat's camp with tokens of submission. The offerings which she made to Yákúb Beg consisted of 1,000 camels, 1,000 horses, 500 sheep, and 45 yambas of silver (each worth 108 roubles, or about £36). With the queen came her army, composed of several thousand men, some armed with bows and some with rifles.

Yákúb Beg received the queen kindly, and readily accepted the Kalmuks as subjects. He then promised that their religion (Buddhism) should not be interfered with. He, moreover, directed Khwájá Mirza, a native of Pskent, whom he had appointed Hakim of Kurlia, to be especially circumspect in dealing with his new subjects.

Before we leave the Kalmuks we should add that, soon after Yákúb Beg's arrival at Kashgar, the queen behaved somewhat rudely to the Hakim, and then, with all her tribe of Torgouts, decamped across the mountains to the Kuldja frontier, after plundering the town of Kurlia. She there accepted Russian protection. At the present day only a small number of Kalmuks, of the Koshut tribe, roam over the neighbourhood of Karashahar. (*See pages 376, 564.*)

Advancing against the defeated Dungan, Yákúb Beg gained possession of Kunya-Turfan and, after it, of Urumcha, 1869-70. His army numbered 11,000 to 15,000 men, the Dungan putting 20,000 men in the field. Some accounts state that Yákúb Beg in this campaign was aided by 8,000 Chinese under Shusha Hun.

Returning to Aksu, he made it his capital, and during the next five years devoted his time to consolidating his power, and gradually extending his frontier towards Kokan, occupying Ulugchat, Nagra-Chaldi, Yegin, and Irkeshtam. (*See pages 559 et seq.*)

In 1872 Dungan revolts in the towns of Urumcha and Manas were suppressed by Bek Kuli Beg, the Badaulat's son. From 1872 to 1876 quiet reigned in Kashgaria. Meanwhile the Chinese, having put down the Dungan rebellion in their western provinces, advanced against Urumcha and Kunya-Turfan, reoccupying Manas and Humatai. As the Chinese advanced, thousands of Dungan families abandoned their abodes and joined Yákúb Beg, who raised amongst them a body of 10,000 men. During the winter, the Diwantchi ridge divided the combatants, the Chinese forces occupying Urumcha, and Yákúb Beg's, Forts Toksun and Diwantchi. During the winter the *morale* of Yákúb Beg's force decreased, and many desertions took place to the enemy. (*See pages 355, 465.*)

It is to be remembered that in the revolt against the Chinese, both

the inhabitants of Kashgaria and the Dungan troops took part in the struggle, and that a considerable portion of the garrisons of the country were composed of Dungans. The rebels were, except in rare instances, without organization, and consisted of loosely put together and badly-armed bands, undisciplined, and devoid of all feelings of heroism.

Chapter VII of Kuropatkin's Kashgaria gives in detail an account of Yákúb Beg's army. It will be well now to give the opinion formed of it by Kuropatkin's mission.

"After casting a rapid glance over all that we have said, one cannot but come to the conclusion that the army which Yákúb Beg had, could in no sense be compared with a European army. Hence it is only possible to compare it with those of other Asiatic potentates with whom we had come into collision. In its organization, Yákúb Beg's army was more heterogeneous than, for example, the army of Bukhára. In its armament and training it stood perceptibly higher than the forces of the Central Asian Khanates. Especially good was the Kashgarian cavalry in comparison with those disorderly and badly-equipped bands of horsemen with whom we had come in contact in Central Asia.

"The spirit of Yákúb Beg's troops could not be considered favourable for undertaking a stubborn fight. Abuses in recruitment (compulsory enlistment); the withholding of stipulated pay; the privations which the men had to undergo at the advanced posts; the presence of masses of Andijáns (who were ready after the first failure to abandon their employer, and to make off to their own country with the goods they had plundered in Kashgaria); lastly, a struggle with the Chinese, the issue of which could scarcely be doubted by any;—all these were the causes which called forth in the ranks of Yákúb Beg's army the inducement to desert, which increased day by day.

"We have not seen the Chinese army which is opposed to that of Yákúb Beg, and we therefore cannot judge of its merits, much less settle the question as to which will come out victorious in the struggle which has commenced. This much only is clear to us, that whereas Yákúb Beg has already made every effort to bring together all his forces for the fight, the strength of the Chinese forces must increase with every month. We can in like manner confidently predict that the first serious engagement of the Badaulat's force with those of the Chinese will call forth a rising of the people against Yákúb Beg, because they are burdened with intolerable imposts, and because the existing order of things in Kashgaria is too oppressive to last.

"With regard to the opposition which at this particular epoch a Russian army marching upon Kashgaria would encounter, it may be said that such an opposition would detain us only during the time that it would take to march through the mountainous tracts for the purpose of capturing Yangi-Shar and certain other fortified points. In the open field Yákúb Beg's army could be as easily defeated and scattered as have been the hosts of Kokan, Bukhára, and Khiva, when these have met our

Yakub Beg's army not to be compared with any European army.

Heterogeneous nature of Yakub Beg's army.

Spirit of his troops bad. Causes.

Forecast of the struggle between Yakub Beg and the Chinese.

Opposition to a Russian force entering Kashgaria.

Turkistán troops at Irdjar, Tchapanata, Zerabulak, Chandir, and Makhrám."

Kashgaria is capable of furnishing the material necessary to clothe her troops, and to arm and equip them, with the exception of iron. Yákúb Beg established workshops for the preparation of uniform and equipment, also arms, and powder factories, and magazines. In the arms factories he employed

Resources of Kashgaria. several Afgháns and Hindus; long and short-muzzle Enfields were turned out. A few cannon (indifferent) were cast of copper procured from the Aksu circle. Powder was manufactured in all the large towns. Lead is chiefly obtained in the Kashgar circle, and sulphur in the Kucha circle. Saltpetre was obtained from Bai and Dan-Lanza, between Kurlia and Karashahar. Coal is procurable on the same road. Percussion caps were prepared in Kashgar. Flint muskets, rifle cartridges, and sabres were manufactured by private enterprise. (*See page 422.*)

Yakub Beg's advanced posts. In March 1877, Yákúb Beg's advanced posts were the following:—

Kunya-Turfán, which was held by Hakim Khan Turya with a force of some thousand sarbazais and levies.

Togsun, which was held by Hak Kuli Beg, Yákúb Beg's youngest son, with a force of 6,000 jigits and sarbazais.

Fort Diwantchi, the most advanced post, which was held by 900 jigits, armed with breech-loaders.

The small range of the Diwantchi hills separated the combatant forces. Urumcha was the most advanced point held by the Chinese. In it they had 6,000 men. (*See page 467.*) The winter of 1876-77 had lowered the condition of Yákúb Beg's army, especially in regard to its *morale*. Desertion had begun to rapidly spread, even amongst those persons on whose devotion Yákúb Beg had always depended.

Chinese treatment of deserters. The Chinese received deserters very kindly and nominated them to various posts in the town of Yeddishar.

We ourselves did not happen to be spectators of the events which led to the rapid and unexpected overthrow of the Kashgarian sovereignty, since our embassy had started on the 24th March (5th April) 1877 on its return journey, one week before the advance of the Chinese to the attack on Yákúb Beg's army. (*See page 355.*)

Return of the Russian mission. The march of events from April 1877 was: On the 3rd (15th) April 1877 the Chinese, to the number of 4,000, marched from Urumcha to Fort Diwantchi, to which they laid siege. The garrison, numbering 1,300 men, after a poor defence, which lasted for three days, surrendered to them.

The Chinese advance from Urumcha to Fort Diwantchi, which surrenders to them. At the same time as they moved from Urumcha to Diwantchi, the Chinese made a demonstration from the town of Hami (Komul) towards Kunya-Turfán: 2,000 armed inhabitants held this place, and they surrendered to the Chinese without firing a shot.

They make a demonstration also from Hami towards Kunya-Turfán, which also surrenders to them.

Hakim Khan Turya just succeeded in getting off with a handful of soldiers to Togsun, where he joined Hak Kuli Beg.

The detachment then under the command of the latter was composed of 4,000 jigits and sarbazais, and of 6,000 armed inhabitants.

On hearing of the advance of the Chinese, Hak Kuli Beg sent to his father, who was at Kurlia, for permission to forward reinforcements to Diwantchi and Kunya-Turfan, but before an answer could be received these places had already fallen, and Hak Kuli Beg, who was, in turn, without reinforcements, retreated with his whole force to the town of Karashahar, fearing that he would be cut off from the Su-Bashi pass.

Lu Tcha Darin, the commander of the Chinese forces, acted very judiciously with regard to the prisoners whom he took at Diwantchi. His treatment of these men was calculated to have a good influence in favour of the Chinese.

All of such as were inhabitants of Yeddishar, amounting to 1,000, he treated kindly, furnishing them with money for road expenses and with passes, and then released them.

He further announced that he was fighting only against Andijáns, *i.e.*, the *parvenus* from Fergana and Tashkend; that he held no doubt as to the devotion of the inhabitants of Yeddishar to the Chinese Government, and that in a short time he would endeavour to free them from the extortions of Yákúb Beg.

The remaining prisoners, who were natives of other parts of Turkistán, were sent to Urumcha.

The released prisoners came to Karashahar, and the rumour of the details attending their release reached the Badaulat. Esteeming the course of action adopted by the Chinese to be very pernicious to himself, Yákúb Beg, in order to neutralise the Chinese influence over the released prisoners, resorted to a measure which did himself still greater harm, whilst it increased the general sympathy for the Chinese. He sent directions to his son Hak Kuli Beg to deprive the released prisoners of all further power of spreading the story of their deliverance. Hak Kuli Beg, in fulfilment of his father's orders, massacred the greater number of these unfortunate persons. The remainder effected their escape and returned to the Chinese. This measure, as might have been expected, produced a result entirely opposed to that anticipated by Yákúb Beg. The report of this atrocity swiftly spread throughout the whole of Kashgaria, and not only revealed the weakness of the Andijáns, but made them more detested than before. The clemency of the Chinese towards their prisoners was exaggerated in the narration, and served to strengthen the party opposed to Yákúb Beg. The Chinese were thus benefited, and a machine was set in motion which, aided by a course of energetic action, tended to the overthrow of Yákúb Beg's authority.

Certain it is that the effect of this story, acting in combination with the general discontent of the people against Yákúb Beg, is the only explanation of

Hak Kuli Beg re-
treats to Karashahar.

Judicious conduct of the
Chinese commander, Lu
Tcha Darin, towards his
prisoners.

Effect of this mild treat-
ment.

Causes of the rapid suc-
cesses of the Chinese.

the subsequent and extraordinary rapid successes of the Chinese, of which we shall speak below.

At 5 o'clock in the afternoon of the 16th (28th) May 1887, the "Badaulat" became greatly exasperated with his secretary, Hamal, whom, for some inexact discharge of a certain duty, he killed with a blow, delivered with the butt-end of his gun.

Having killed Hamal, he set upon his treasurer, Sabir Akhun, whom he also began to beat. In the struggle with him and then attacks his treasurer. he received a blow which deprived him of his senses. After remaining in this condition for some time, the "Badaulat" died at 2 o'clock in the morning of the 17th (29th) May. The stories that Yákúb Beg was poisoned by his son Hak Kuli Beg, and that he himself took poison in consequence of his want of success against the Chinese, are devoid of foundation.

On the day of Yákúb Beg's death, *i.e.*, on the 17th (29th) May, Hak Kuli Beg came to Kurlia from Karashahar. For three whole days he told no one of his father's death. During this period all the troops at Karashahar were called back to Kurlia.

Having collected his forces at Kurlia, Hak Kuli Beg informed them on the 20th May (1st June) of the death of their sovereign, and declared that it was his wish to go with his father's body to Kashgar, where his elder brother, Bek Kuli Beg, was, who, he said, had taken the place of a father to him, and without whose permission he would undertake nothing.

Having contented the army with the issue of two months' pay, and having appointed Hakim Khan Turya his deputy for the time being, Hak Kuli Beg set out on the 25th May (6th June) for Kashgar.

According to report it was Yákúb Beg's wish to appoint, not his eldest but his youngest son, Hak Kuli Beg, his successor, the latter being more warlike and more liked by the army. All the officers of the army were also on his side. With regard to the sympathy of the people, especially of Kashgar, and particularly of the merchant class, that was on the side of Bek Kuli Beg.

According to the same information, Hak Kuli Beg set out for Kashgar with the object of proclaiming himself ruler. The taking of his father's body to that place was a mere pretext.

It is equally certain that Bek Kuli Beg recognised in his brother a dangerous rival, of whom he hoped to rid himself with the aid of an assassin.

On the 26th May (7th June), *i.e.*, the day after Hak Kuli Beg's departure from Kurlia, all the troops assembled in that town and proclaimed Hakim Khan Turya Khan. The latter immediately sent off a Kip chák, Dash Beg by name, with 500 horsemen in pursuit of Hak Kuli Beg, with orders to prevent him seizing the treasury at Aksu.

Yakub Beg, in a fit of anger, slays his secretary, Hamal,

and then attacks his treasurer.

Hak Kuli Beg goes to Kurlia on the day of Yakub Beg's death.

He announces the event to his troops.

Appoints Hakim Khan Turya as his deputy at Kurlia and proceeds to Kashgar.

Report as to Yakub Beg's wishes with respect to the succession to the throne. Sympathy of the army and the people respectively.

Real motive of Hak Kuli Beg's departure for Kashgar.

Bek Kuli Beg's feelings towards his brother.

The troops at Kurlia proclaim Hakim Khan Turya, Khan of that place.

On the 11th (23rd) June, Hak Kuli Beg, with 30 attendants, left Aksu for Kashgar. At 80 versts (53½ miles) distance from that town, near the station of Kupruk and at the bridge over the Kizil-su, Hak Kuli Beg was treacherously slain by Muhammad Zia, Pansat, who was sent by Bek Kuli Beg to meet him.

According to another story, less worthy of credence, Bek Kuli Beg personally met Hak Kuli Beg, and shot him with a revolver at the very moment of their meeting. He at the same time ordered all Hak Kuli Beg's followers to be slain.

In consequence of these events the Kashgarian sovereignty became divided into three parts, each of which had at its head a separate ruler. In Kashgar there was Bek Kuli Beg; in Aksu, Hakim Khan Turya; and in Khotan, Níáz Beg. These three began to fight amongst themselves. Bek Kuli Beg proved himself most powerful and the most energetic. Having collected a force of 5,000 men, he advanced against Aksu.

Division of the sovereignty of Kashgaria into three parts, under Bek Kuli Beg, Hakim Khan Turya, and Niaz Beg respectively.

Bek Kuli Beg advances against Aksu.

Hakim Khan Turya, on his part, collected a body numbering 4,000 men, and went out to meet him. Near Yaida (Jaida), between Maral-Bashi and Aksu, the respective advanced guards had a skirmish, in which the Kashgarians were defeated and pursued as far as Tchul-Kuduk (Shur Kuduk). Three days afterwards Bek Kuli Beg concentrated his forces at the place last named, whilst Hakim Khan Turya's main body was at Yaida. Between these two places a decisive battle took place, which lasted for five hours. Hakim Khan suffered a defeat and saved himself by escaping to Russian territory. His army surrendered to Bek Kuli Beg.

Hakim Khan Turya's forces are defeated, and he flies to Russian territory.

On the 1st (13th) August Bek Kuli Beg entered Aksu in triumph. Having stopped there two weeks, he started on the 24th August (5th September) on his return journey to the town of Kashgar, where he gave his troops a month's rest, after which he set out, on the 22nd September (4th October), with 5,000 men, to Khotan.

Bek Kuli Beg enters Aksu in triumph.

He advances to Khotan.

On the 8th (20th) October he was met at Zava by the Khotan army under the leadership of Emin Beg, brother of Níáz Beg. The Khotanese fled on the first charge of the Kashgarian cavalry. Níáz Beg, who was at the time in Khotan (Ilchi), 30 versts (20 miles) distance from Zava, hearing of his brother's defeat, had no desire to prolong the contest, so he took his family and his belongings and set out for Char-chan, whence, in all probability, he intended making his way to the Chinese by the River Khotan Darya and across Lob-nor.

Niaz Beg's forces being defeated, he flies to Char-chan.

The next day Bek Kuli Beg entered the town of Khotan, and sent men to pursue and catch Níáz Beg but those whom he sent returned without success.

Bek Kuli Beg enters the town of Khotan.

On the 18th (30th) October Bek Kuli Beg received news of the capture of Kurlia, Kucha, and Aksu by the Chinese, and of the retreat of the Kashgarian troops towards Kashgar. Under the influence of this news he sent a messenger to Kashgar for his family, directing that they should be escorted to Yarkand. On the 25th October (6th November) he himself went to Yarkand, where he found his family. But, meanwhile, still sadder news had reached the same place. Those Chinese soldiers who had been made Musulmans by Yákúb Beg, forced their way into Fort Yangi-shar (citadel of the town of Kashgar) and shut themselves up in it. This intelligence produced a great impression on Bek Kuli Beg's followers, for the families of very many of them were living in Yangi-shar, and had, therefore, been seized by the Chinese. They therefore began to publicly reproach Bek Kuli Beg, saying that if he had not sent for his own family from Yangi-shar, the Chinese would not have dared to resort to such an extreme measure.

The Chinese capture Kurlia, Kucha, and Aksu, and the Kashgarian garrisons retreat to Kashgar. Effect of this news on Bek Kuli Beg.

A little before this, Bek Kuli Beg had sent all his infantry from Yarkand to Maral-Bashi by the direct road, but on the way they all fled. Seeing that his affairs had now become desperate, he, accompanied by the Hakim of Yarkand and by his own family, started on the night of the 4th (16th) November for the town of Kargalik, which lies on the road to Khotan. But certain persons, whose families had been detained in Yangi-shar, stopped the intending fugitive, and demanded that he should go with them to try and recapture this fort.

Effect of this news on the followers of Bek Kuli Beg.

Bek Kuli Beg endeavours to make for Kargalik, but is prevented and made to undertake measures for the recapture of Yangi-shar.

Bek Kuli Beg was consequently obliged to consent and to return to Kashgar. Having arrived at Yangi-Hissar, which is half-way between Yarkand and Kashgar, he, out of pure spite to the Chinese, gave orders that all the Chinese boys in the service of various persons should be slain.

Bek Kuli Beg's massacre of a number of Chinese boys.

Two hundred were the victims of this order. At the same time Aldash Datkha, Governor of Kashgar, killed 400 Chinese of both sexes, and of various ages, who had not gone into the citadel of Yangi-shar.

Aldash Datkha, Governor of Kashgar, slays 400 Chinese.

On the 24th November (6th December) Bek Kuli Beg came to Kashgar and took up his abode in a garden, distant about 3 versts (2 miles) from Yangi-shar. Those of his troops, and some Dungans who had come to him from Aksu, to the number of more than 10,000, laid siege to the citadel, and began to prepare to storm it. All their efforts were fruitless.

Bek Kuli Beg arrives at Kashgar.

Failure of his attempts to retake the citadel of Yangi-shar.

The garrison of 500 Chinese defended itself heroically, for not only were all the assaults repulsed, but almost every night the Chinese made sorties and inflicted sensible loss on the besiegers.

On the 4th (16th) December reports were circulated throughout Bek Kuli Beg's camp that the Chinese were close to Faizábád, 60 versts (40 miles) distant from Kashgar. Aldash Datkha was sent with a force against them, but he, after firing a few shots, retreated. This retreat was the commencement of a general retirement.

A panic seized Bek Kuli Beg's troops, and they fled into Russian territory,—some to Fergana, through the Terek-Davan pass, some to Narin by Chakmak and Artush. Bek Kuli Beg was the first to give the signal for the flight.

At 7 o'clock the same evening a small reconnoitring party sent by the Chinese from Maral-Bashi, entered the town of Kashgar without a blow.

After Bek Kuli Beg's troops followed thousands of inhabitants of Kashgar and their families, for they feared a repetition of those atrocities, which had on every occasion attended the appearance of the Chinese after the expulsion of the Khwájás, Jhángir, Wálikhan, and Katta-Turya.

These unfortunate people set out for the Terek-Davan and crossed the range of mountain bordering it at a time when there were 30° of frost.

There now began a repetition of the horrors which attended the flight of the Kashgarians after Katta-Turya's expulsion, when tens of thousands perished from frost and hunger.

Happily for the fugitives on the present occasion, Major Ionoff, an energetic and experienced Turkistánian and commandant of the Osh district in which the Terek-Devan pass is situated, adopted measures for their safety. He himself, accompanied by his second-in-command, Captain Roselein, set out for the pass, and at once organised measures for the relief of those Kashgarians who reached Russian territory almost frozen and perished from hunger. The fugitives were warmed and fed, and sent on horses to Osh. All who crossed Russian territory were saved. The district commander of the province of Sermiraitchia likewise did all he could to lighten the sufferings of those fugitives who sought safety in Russian territory.

The inhabitants of Yarkand tried to fly to Sarikol, and even to Shignan, but the Sarikol Kirghiz made them go back and gave them into the hands of the Chinese.

On this occasion the Chinese, taught by bitter experience, kept themselves at first under comparative restraint. The people were appeased. Musulmans were appointed as headmen of the towns. Trial by the Code of the Shariát was permitted, and religion was not interfered with. About ten men were executed during the first day of their return. But the Chinese had only just come. They let the people

The Chinese said to be at Faizabad. Aldash Datkha's force retreats.

Bek Kuli Beg's troops fly in various directions, whilst he himself goes too.

The Chinese occupy Kashgar.

Exodus of the inhabitants of Kashgar.

Their sufferings.

Measures adopted by the Russian forces for the relief of the fugitives.

The Sarikol Kirghiz prevent fugitives from Tashkend entering their territory.

Altered behaviour of the Chinese towards the people of the country.

remain in peace, and turned their attention, amongst other matters, to the horses. Rumour tells us that the Kashgarians were forbidden to keep horses. Those who disobeyed this order were executed, or, according to other reports, unworthy of credence, they were starved to death and even blown from guns. (*See page 530.*)

Inhabitants of Kashgaria are not permitted to possess horses.

In the horses, which had given the Kashgarians the power of moving rapidly over vast tracts, the Chinese saw one of the principal causes of their former defeats.

Reason for this prohibition.

The further events which took place during the present year are but little known to us. We only know that with the occupation of Kashgar by the Chinese, the struggle is not yet over. Certain towns have not acknowledged the supremacy of the Chinese and continue to fight with them till now. Amongst these towns, Khotan and Utch-Turfan maintain the lead. The Chinese have undertaken to occupy the country with too weak forces, which must perforce be scattered about. If, therefore, there should appear in Kashgaria an energetic opponent of the Chinese, he might hope to give them much trouble, and might even defer the pacification for some years until sufficient reinforcements from the Celestial Empire should arrive to overcome all opposition, and be in a position to uphold the order of things once more re-established.

Further events in Kashgaria after the return of the Chinese.

From the latest intelligence it is apparent that the mild behaviour of the Chinese towards the natives has ceased. The people, as of old, are burdened with intolerable exactions in the shape of money, provisions, and forced labour. Executions have begun. Dissatisfaction increases, and many have come to dwell on the memory of Yákúb Beg with regret. (*See pages 530, 537, et seq., for history of later events.*¹)

The Chinese alter their behaviour towards the natives, who begin to regret the removal of Yakub Beg.

RELATIONS OF THE CHINESE WITH THEIR SUBJECTS IN THE SIN-KIANG PROVINCE (1887.) (*Prjevalski.*)

“The Sin-kiang, or new province, was formed in 1884, and comprises eastern or Chinese Turkistán, and the districts of Karashahar, Urumcha, Barkul, and Hami, and provinces of Ili and Tarbagatai. The two northern provinces—that is, Ili and Tarbagatai, the settled population of which consists of Tarantchis, Sarts, Chinese, Mantchus, and Dungans, with a nomad population of Kirghiz, Torgouts, Tchakhars, and the remnants of the Zungars—have a military organization. A civil administration, organized on the lines of that obtaining in the interior provinces of China, has recently been intro-

¹ In July 1876 the Chinese occupied Gu-chen (Ku-chéng); Ku-mu-ti and Hung-miotza in August. Manas fell in September, and the Peh-lu was then firmly held. They then set themselves to reconquer the Nan-lu by armies of 29 ying of infantry from Hung-miotza and of 15 from Hami, each of about 500 men and 5 ying of cavalry, each of about 250 men. The Peh-lu army numbered some 40 to 50 ying. The army cost some 2,640,000 taels per annum. These are Chinese figures, and to be received with caution. The leader of the Dungans, Peh-yen-hu or Beyan, escaped into Russian territory. (*See page 355.*)

duced in eastern Turkistán. The whole region is divided into eight circles, of which the four eastern ones—Karashahar, Kutcha, Aksu, and Utch-Turfan—form one district; while the western circles of Kashgar, Yangi-Hissar, Yarkand, and Khotan, form another. The government of the districts is entrusted to Taotais. The one in charge of the eastern circles resides at Aksu; the other, to whom are confided the western, at Kashgar. This latter official has, in addition, control over the foreign trade of eastern Turkistán. The Governor General lives at Urumtsi.

“At the head of the sub-districts of the circles are also Chinese officials under whose orders are the local Musulman administration. The more important among them, the Hakim Begs (heads of sub-districts), at the present day systematically shirk their duties, and thus the sole medium existing between the Chinese authorities and the population at large consists of minor native officials who receive no sort of remuneration from the Imperial Government, and interpreters drawn from the Musulmans, who have become more or less naturalised as Chinamen. These, in common with the ignorant, rapacious Chinese officials, have succeeded in effacing even the shadow of either justice or legality in their dealings with the people under their power. It is certainly true that the latter have the Muhammadan *Shari'at* to appeal to, but this is now little better than a dead letter.—a mask, in fact, for concealing the most arbitrary abuse of power and contempt of law and justice.

“The condition of the country, as regards taxation, is no better. While, with a view to assuring their somewhat doubtful loyalty, the nomad Kirghiz mountaineers have been completely exempted by the Chinese from all taxation, the settled agricultural population of eastern Turkistán, on the other hand, bear the full burden of the territorial imposts. These imposts are paid in kind, though sometimes a money equivalent is taken. The basis on which the amount of each contribution is calculated is not, however, as might be supposed, the yield of each separate yearly harvest, but the absolute quantity of ground in possession (whether under cultivation or not makes no difference). This is valued according to a certain fixed normal rate (a very high one), the standard of valuation being thus not quality, but quantity. Persons unpossessed of real or landed property, as also traders, pay nothing whatever to the exchequer. The agricultural class, in addition to the above imposts, are obliged to provide the necessary labour for state works, to furnish transport and to maintain Jigits (mounted horsemen) for the public service post, &c. In these matters, as well as in the collection of taxes, the pressure of the burdens themselves is frequently much enhanced by the tyranny and rapacity of the officials and interpreters. Finally, the sole indirect tax existing in eastern Turkistán, that known as the *badj*, an *ad valorem* duty of 10 per cent. on all cattle sold, was last year extended by the Chinese to every article for sale in the bazárs. Thus a new burden was laid on the agricultural class, who even without it were already paying, in taxes, bribes, and other extortions, at least 50 per cent. of their income, while, moreover, the general bearing of the Chinese towards the natives is one of undisguised

contempt. In a word, in eastern Turkistán, it would seem as if it were the set purpose of the Chinese, by depriving the native population of all chance of ever settling down, to render impossible the consolidation of their own power. In addition to the causes above set forth, religious hatred, and, very probably, the secret intrigues of the former pretenders to the throne, tend not a little to incite the population against their oppressors. The discontent of all classes of the community is growing with each day, and but a small spark, dexterously applied, is needed for a general explosion of the accumulated exasperation.

“It is thus evident that the position of the Chinese, both in Mongolia, and especially in eastern Turkistán, is one of extreme shakiness. Being incompetent to attach to themselves foreign nationalities by the pacific measures of culture and assimilation, the Chinese are obliged to rest their supremacy exclusively on a policy at once of cunning and extreme egotism, and on their military strength.

“Crying injustice, espionage, rapacity, grinding taxation, tyranny of officials,—in a word, entire absence of all ideas of legality in all administrative or judicial matters,—such are the leading characteristics of the Chinese rule. Neither are the persons or the property of the natives secure. No one can say what the morrow will bring forth. Ignorant Chinese officials, with their interpreters, drawn from amongst renegade Musulmans, give license to their tyrannical propensities, rapacity, and bestial passions. Further, the presence in the country of the Chinese troops, far from tending to its pacification, has resulted in the continual spoliation of the people, and the infliction on them of every species of oppression. We ourselves witnessed scenes of oppression that made our very blood boil; such, for example, as the seizure by the Chinese officials, nay, by their servants even, of a man's remaining beast, or whatever possession of his the taker might fancy, wives and daughters violated almost before the eyes of the parents and relations, women subjected to corporal punishment, open robbery on the part of the soldiers, &c., &c. At the same time the agricultural community was weighed down by an exorbitant taxation, which was mercilessly exacted to the last farthing.

“It is not wonderful that, however mild the character of the native of eastern Turkistán, it is impossible that he can reconcile himself to such a condition. Every class of the population here is imbued with a fierce hatred of the Chinese; women even on more than one occasion in our presence bitterly reproaching their husbands and brothers for their pusillanimous behaviour towards their tormentors. The elements of insurrection seem on all sides in eastern Turkistán, but, as more than one native said to us, ‘There is no head, none to lead.’ In former times such was forthcoming from the neighbouring Khanate of Kokand, but that is now a Russian dependency. At the same time, the isolated character of the various oases of eastern Turkistán, both from a geographical and a political point of view, offers to the unhappy natives, even in the event of the fullest success attending a revolt, or, in other words, the complete extirpation of the Chinese, the not very cheering prospect of the despotic rule of this or that political adventurer, with the necessarily concomitant civil wars,—

in a word, the same nauseous dishes, the seasoning alone being slightly altered. Through the mournful mists of a chaotic present, and a not less clouded future, there is yet one ray of hope—Russia! This is all the more powerful from the living example, ever before their eyes, of Russian Turkistán, where in an incredibly short period Russian rule has proved itself a sure pledge of peace and prosperity. This, then, is the reason why in eastern Turkistán, in every town and every oasis, the inhabitants are every day and night devising means for becoming Russian subjects. At every step during my recent journey, I received evidence of this. Everywhere, in spite of Chinese

The people look forward to Russian rule. prohibition, the inhabitants of the oases of eastern Turkistán strove to be of service to us in some way or another; everywhere were we received as honoured, welcome guests; while, at the same time, they openly expressed their hatred of the Chinese and their sincere desire to place themselves under the sceptre of the White Tzar. In some places this was carried to the extent of the Musulman elders beseeching me, then and there, to issue an order for the immediate extermination of the Chinese! With regard to our journey these same Musulmans used to say, 'The White Tzar is now going to take us under his protection.' In fact, they considered this event as the fulfilment of the prophecy, very wisely spread through eastern Turkistán, of some saint, to the effect that in the near future the Russians would conquer this country. 'You have merely to blow, and there would not be a Chinaman left here,' the natives used to say to us. 'The Russians would have but little fighting to do,' they used to add: 'we will rise to a man, and ourselves annihilate our oppressors, provided only that we be not left to our fate afterwards.'" (See pages 363, 526.)

Thus writes Prejvalski: these conclusions were drawn by him between 1876 and 1884 apparently; those arrived at by myself in 1887 on the points of taxation, oppression, feeling of the Muhammadan population towards their Chinese masters, &c., are given in this report, and do not altogether agree with those of the eloquent explorer quoted. (See pages 434, 510, 526, 530, 541.)

The Chinese have learnt a lesson from the late rebellion, and now treat the Kashgarians well. They are lightly taxed, as content as they can be in a country wherein no law exists, and as wealthy as they can expect to be without an increased export trade. They are lax Muslims and have made for themselves in Kashgaria a Muslim paradise on this earth; even a poor man can afford two wives; these are excellent housewives and bear to him numerous children. The gratification of his physical desires, coarse passions, General Prejvalski considers, forms the *summum bonum* of every Asiatic; as they flow like a river in his earthly home, he is content to put up with masters whom he likes, to whom he gives his daughters in marriage, &c., although they may be unjust at times. They fear the advent of the Russian tax-gatherer, and prefer to suffer a little injustice to the certain evils of his presence amongst them.

All Indian Muhammadans living in Kashgaria praise the Chinese

rule, and have settled permanently in the country. This they would not do were the country in the state that Prejvalski declares it to be in. The Russians are not disliked where they are unknown, *i.e.*, in Umiozta they are said by rumour to be a good people; where they are known they are not liked, *i.e.*, in Kashgar.

The emigration of Taranchis from Kuldja, on its rendition, into Russian territory was prompted by fear of retaliation. (*See page 610.*)

The Tunganis and the heathen Chinese can never again be anything but smothered enemies; the former will have their revenge, and will submit to Russia to gain it. Throughout Kansuh, however, I never heard a heathen Chinaman say a word in disparagement of a Muhammadan (Tungan).

The Mongols, especially those on the Russian borders, are credited by most authorities with strong leanings towards Russia. (*See pages 313, 315 et seq., 664.*) A severe lesson has caused the Chinese to conciliate the Kashgarians; before they conciliate the *dirty Mongol*, a barbarian to a Chinaman, they have still to be taught another lesson.

The impressions formed lead me to think that in the coming struggle for Kashgaria the Turk population would remain passive. (*See pages 363, 509, 526.*)

General Prejvalski explains how laziness and want of special individual qualities has induced the human wild beast to adopt the nomad life. He is of opinion that every spot affording pasturage in Mongolia and the Sin-kiang province is occupied; that every scrap, every blade of grass is eaten each year, either by the herds of the nomads or by wild beasts; no real increase in the sparse population of these vast tracts is possible, he asserts, without great detriment to the well-being of their large flocks, and hence to themselves. We have come to a counter-conclusion; we have passed over vast grazing grounds unoccupied, yearly much grass rots on the soil for want of the reaper's sickle to glean it or of flocks to graze it down.

On the other hand, he asserts, every one of the small oases that lie scattered over Central Asia, along the foot of its two principal mountains, the Tian-shan and the Kuen-luen, and which present the sole and only spots at all suited to settled life, have, from the earliest ages, been filled to overflowing; every mile of irrigated land has been occupied; not a single gallon of water has been allowed to run to waste; the population has long been the highest compatible with the productive capabilities of the soil, leaving no room for the addition of a single mouth.¹

A system of periodical extirpation presented the sole possible solution of the problem, giving room, as it did, for the expansion of the conquerors over the vacated lands.

He considers that the low figure of the population could never be raised in any appreciable degree whilst the desert remains so inimical to man. The perusal of the narrative of the journey from Si-nan-fu to Kashgar warrants other conclusions being arrived at. (*See pages 508, 528.*)

¹ This is not the case. The increase of the population during the next few decades can live comfortably on the soil. Later on they must overflow into Kansuh.—*M. S. B.*

CHANCES OF PROGRESS IN TRANS-MURAL CHINA.

Prejvalski finds everywhere in Chinese Central Asia moral vacuity, sluggishness, and stagnation; the characteristics of the race he considers to be hypocrisy and egotism of the most repulsive description, apathy and laziness. From these result an entire absence of all tendency towards progress, an extreme conservatism; in their eyes liberty possesses no sort of value, and their popular outbreaks have been against individual personages and never against the principles themselves of despotism. (See pages 438 et seq.)

He has common sense to a peculiar degree and great natural intellectual gifts, the development of which is arrested midway, or which remain in a mere embryo condition.

He credits them with being capable of receiving but transitory impressions and with natural cowardice.

He credits the nomads with the virtues of hospitality, family affection, adherence to their word, honesty, chastity, and charity; and the settled population with a love of peaceful domestic pursuits, sobriety, honesty, and obedience to authority.

He considers that the very condition of the nomad's existence engenders sluggishness and prohibits progress. Heat, cold, tempest, and other evils of an unpropitious climate, can alone be met by a patient and passive endurance, and under such conditions the intellectual development of man is simply impossible; there is an absence of all sufficient motive for it, and no field for the exercise and hence for the development of the intellect. Beyond instinctive sagacity the nomad is a child. Nor does he consider his civilisation either possible or desirable; indeed, he argues that the nomads borrow its vices, and adopting them, lose their natural virtues.

Also that the settled agriculturist can never rise above his present level; that an impassable gulf lies between the inner world of the European and that of the Asiatic; they are absolutely distinct, the one from the other; and it is hardly possible they could ever come to look on one another in the light of brethren. Such a transformation requires the vigour and freshness of youth, not decrepit and effete old age, and these necessary elements are wanting. (See pages 17, 22 et seq.)

The main obstacles to the spread of Christianity and civilisation throughout Central Asia and Asia generally are the two religions there dominant,—Buddhism and Muhammadanism. Buddhism preaches the vanity and ephemeral nature of all existing things: it says that the world is an illusion and life a heavy burden; that unhappiness lies in the very fact of existence; that there is but only one truth,—Nirvana,—absolute annihilation, a state utterly devoid of all reference to time or space, a state in which all notion of individuality is completely effaced. The Buddhist teaches that the highest aim a man can have in this life is to strive to extinguish every personal desire, sensation, ambition,—in a word, to prepare himself for Nirvana, for non-existence.

“Muhammadanism, although, in its fundamental formula of ‘there is no God but God,’ proclaiming the high principle of a single God as the absolute cause of all existence, has, at the same time, yielding to the

idiosyncrasies and genius of its disciples, displayed an indulgence to the sensual side of man, and has shrewdly turned his egotism to advantage in the doctrine of predestination. At the same time it has laid down as an immutable dogma the persecution of the infidel.

“Thus, the two religions are directly opposed in their tenets. Buddhism inculcates asceticism as man’s highest merit during his terrestrial life, and promises complete annihilation as his future reward. Muhammadanism, on the contrary, preaches a certain predestination of every man in this life, and in the future offers a paradise peopled with houris, where sensual enjoyments shall flow like a river. The Buddhist is indifferent as regards persons of other beliefs; he acts solely by example and persuasion. Muhammadanism enjoins with fire and sword the adoration of the Prophet. It is this which forms the starting-point of the different influence exercised on history by the two religions; Muhammadans, actuated by fanaticism, had at one time subdued nearly the whole historical world; Buddhists, as such, have never once appeared in the arena of history. The one religion requires the sword and violence; the other is one of benevolence, though at the same time, as far as regards the undermining of all energy, industry, and the better aspirations of man, not a less dangerous religion. Hence, each has been similar in its action, though in different ways, to hinder progress; Buddhism has shown itself a directly disintegrating element in the body politic; Muhammadanism, while doubtless in itself a bond of union, cementing together the various members of its body, yet excludes all intellectual development beyond the limits of its own doctrines.”

The accusations charging Muhammad with pandering to the sensuality of his followers, in order to popularise his religion, are quite unsupportable; for, although he only restricted the unlimited polygamy of the Arabs to four legitimate wives, his total prohibition of all drugs and liquids capable of producing intoxication, as well as the rigid and withering fasts which he instituted, are in themselves ample refutations of such awkward calumnies (*Creagh*). Muhammad cunningly added so many sensual allurements to his description of Paradise that the libidinous and warlike Arabs often actually sought a death which should place them in contact with eternal voluptuousness; an abandonment of the present enjoyment of sensual gratification for the hope of a future reward.

To the Chinese the idea that Christianity is propagated from benevolent motives is inconceivable. They almost universally regard it as a political agency used by foreigners for the accomplishment of selfish or political ends, or should the poor who feel its disinterested influence acknowledge it, the writings of the literati and their animus against foreigners are, when the occasion requires, sufficient to turn their convictions. (*See Preface.*)

Narrative continued from page 387.

ROUTE No. 8,

Toksun to Aksu.

5TH STAGE.

23rd June.—A heavy sandy track, fit for one line of traffic, leads

over the sandy clay soil, here barren, and soon gains the gravelly and sandy skirts of the barren hills lying to the south of the town. The ascent over them is gradual. At 10 miles, descending steeply into a river bed, the station is reached.

SU-BĀSHI.—9 hours.—30 *li*.—Bar. 28·7".—Temp. 87.° (1,250'.)

No supplies. A plentiful brackish stream waters the barren ravine. Water cool and refreshing.

6TH STAGE.

24th June.—The track winds up the barren ravine, which is from 100 to 300 yards wide, bordered by high perpendicular cliffs of indurated clay rock and watered by a brackish stream. At 12 miles a plentiful stream of sweet water bursts from the rock, and the defile becomes here filled with boulders of size (of granite).

WO-HO·BO-LA.—6½ hours.—42 *li*.—Bar. 25·75".—Temp. 85°. (4,120'.)

Station in the defile. No supplies. Plentiful springs.

When rain falls in the upper hills the passage of this pass becomes dangerous, 5 feet of water rushing down it in its narrow parts. Its broad bed is not worked into ravines by this flow. (*See page 385.*)

7TH STAGE.

25th June.—Weather cloudy.

The track continues up the ascending ravine, which widens to a width of 300 to 400 yards; towards its head its side walls are broken through by ravines; all are more or less filled in by shingle to some depth. At 10 miles, Bar. 24·35°, Temp. 58° (5,600'), the descent commences, and the path winds down amongst shaly hills and hillocks, all the bottoms of which are flat and filled in as before with shingle and triturated slate. A heavy cart-track.

SHAN-SHU-UENZA.

Thunder.

At 16 miles is an inn and small spring; still descending, at 23 miles, the shallow, barren, separating valley (lie 120°) between the (Ta-san-khor?) range passed and that bordering Lake Bagrach, 10 miles distant, is reached and traversed. Bar. 26·0°, Temp. 85° (elevation 3,860'). All hills barren. These spurs, thrown out from the main range, extend 10 to 40 miles to the south-east, and are of indurated clay, forced up by granite and gneiss.

KAMISH.—12½ hours.—90 *li*.—Bar. 26·68".—Temp. 85°. (3,150'.)

Small oasis, watered by a small stream, of three Turk and three Tungani families. Light rain.

8TH STAGE.

26th June.—The track continues over a waste of sand, dotted over with low mounds, making for the head of the shallow and broad, enclosed valley. Tamarisk plentiful. At 12 miles the gravelly skirts

of the hills are ascended, and at 19 miles they are entered and traversed, the track passing through a flat-bottomed ravine, 100 to 200 yards wide, bordered by high cliffs of rock (indurated clay).

USHAGU.—7½ hours.—62 *li*.—Bar. 25·2".—Temp. 88° in holsters, 78° in air. (4 680'.)

Well 30' to 40' deep. Station in the defile; no supplies.

26th June.—One solitary traveller besides ourselves on this highway. The only pleasure of travelling through these barren hills is that one meets so few hatefully and obnoxiously curious Chinamen. The cart-mules are accustomed to go 12 hours at a time without rest, food, or water. The rooms at the stations smell of stale tobacco, and the earth of the floors, and even that of the inn-yards, is saturated with it and the spittle of cartmen. Judging from the number of drunken carters, one's inn companions, *samsu* is cheap and plentiful.

The Tian-shan, and these its offshoots, would be very difficult to traverse were it not for the natural roads formed over them by the filling up of the valleys with sand and gravel. The filling in is here granitic; it is more frequently of shale. (*See page 385.*) The rock is here granitic. The water in the wells and streams is cold and refreshing, although at times brackish. To the northward occur ridges similar to those crossed, except that they are narrower and more knife-edged.

The road continues to thread the ravine, here 200 yards wide, until in one hour an elevation of Bar. 24·9°, Temp. 92° in holsters and 83° in air, elev. 5,000', is reached. The descent is gradual, into a flat, barren, and sandy valley, 4 miles broad, swarming with mosquitoes, which greatly annoy both man and horse. At 16 miles the inhabited hut, *Chin-chinza*, is passed.

USHTABA.—12 hours.—102 *li*.—Bar. 26·04°. Temp. 70°. (3,850'.)

Small oasis, abundantly watered. Small village.

9TH STAGE.

A nest of mosquitoes, inhabited by 70 Turk, 50 Tungani, and 4 Chinese families. The few Chinese families to be found westward of Hami and south of the Tian-shan ranges is very noticeable.

Few carts use this road. Donkeys are chiefly employed. No camels were seen on this side of the Tian-shan. The poppy is cultivated here and thrives.

The oasis is plentifully watered by streams flowing from the hills, one mile to the north, which are rocky, steep, and barren. They rise abruptly. A flat extends southward to the lake, 10 to 15 miles off; beyond the lake low hills are seen.

The Tungani or Chinese Muhammadan met with in East Kashgaria is as obnoxiously curious as his heathen brother, and to all appearance a true Chinaman.

The Turks here are flat in the face, thereby still indicating the Mongol cross noticed at *Umiozta*.

27th June.—At 2 miles a stony or sandy plain is crossed, barren. At 13 miles a well-watered and wooded, but narrow and unoccupied,

oasis is traversed. Huts in ruins. Mosquitoes in thousands attack both man and beast. Well watered and timbered strips are crossed at 16 miles and 19 miles; otherwise all is barren, with the exception of two enclosures at 20 miles. Before reaching Chinzi-kurza the road is very heavy over sand.

CHINZI-KURZA.—8½ hours.—72 li.—Bar. 26·3".—Temp. 70°.
(3,550'.) Small oasis.

Small village of 20 to 30 huts and a few shops.

10TH STAGE.

28th June.—The road winds through an untilled oasis and high grass, swarming with mosquitoes, so annoying that it was almost impossible to halt to take an angle. Hills 10 miles to the north; a flat to the south—a good soil, probably rendered valueless by the mosquitoes. Good grazing in places and much thatching grass. If cut, and the ground tilled, the mosquitoes would probably disappear.

The Bagrach lake to the south is said to be chiefly fed by springs rising in Ta-cheng (great spring), 30 miles from Wo-ho-bo-la; its waters are fresh; a few families live in its neighbourhood. Fish in it are said to be plentiful, and in the winter are carried in ice to Umiotza.

At 8 miles the road winds amidst sandy hillocks covered with tamarisk.

At 15 miles ruins occur; grass again grows; the country becomes well watered, and flies take the place of mosquitoes! There is little cultivation about the town of Karashahar.

The poppy is extensively grown near the town.

KARASHAHAR.—7 hours.—60 li.—Bar. 26·30".—Temp. 77°.
(3,550'.)

28th June.—The town of Karashahar, which lies on the left bank of the river, about 40 miles from the foot of the indentation in the hills whence it flows, has a side of between 400 yards and 500 yards, walls of mud, ramparts 12' high, 18' high in all to top of loop-holed parapet. It is fronted by a covered way, about 30' wide, with a low musketry parapet wall and ditch, about 12' wide at top and full of water. There are gateways in the centre of each face, about 50' deep; that in the south face is surrounded by a semi-circular mud wall, about 12' high, loop-holed, with a narrow banquette and outer gateway.

The flanking bastions at the angles and the gateways have sides, 30' to 40' long. To the south of the town, in the suburb, is a camp of about 150 to 200 yards by 300 to 350 yards side. Bazár, in the suburbs, of several streets. Shops, low, of mud, with flat roofs, number about 150.

The inhabitants consist of—

460 Tungani, 250 Turk, 100 Chinese, 400 Mongol families.
Garrison. { 500 Mongol cavalry, mounted on ponies.
 { 500 Braves from Shensi.

The Mandarin is a Chi-hsien (Hu-nan man).

There are from 1,000 to 2,000 Mongol families in the vici-

nity. The reason for the existence of the town would seem to be to supply their wants and the requirements of the nomads in the Tianshan and towards Lob-nor, and because of the strategic position it occupies. The country between it and Umiotza is a poor producing country; a heavy 10 days' journey for carts. By a hilly pack-road Umiotza can be reached in 6 or 7 days. It goes by Ha-ba-chigo.

Lob-nor is 10 days distant. Grass is found on the road, but water is scarce.

Opium costs 19 taels silver for 100 taels weight opium; flour 1 tael the 100 catties. Both English, Russian, and local cottons are sold in the bazár; the former are brought from Tien-tsin, *via* Kwei-hwa-cheng.

Russian loaf-sugar costs 470 cash the cattie (1,800 cash to the tael). The Karashahar oasis is chiefly a grazing one, very little agriculture is carried on over it, compared to its extent, and few trees are grown.

Fort Karashahar is thus described by Wilkins—"Karashahar is a small settlement, undeserving of the name of a town; there is only one street in it running almost due north and south, and about 200 sajens (465½ yards) long. There is no regular bazár, though there are a few dirty and poor shops. There were neither Russian nor English goods in it. The population of Karashahar consists exclusively of Kalmuks. Wheat here costs 2 tengas the charik; wheat flour 12 pul the jin; rice 16 to 18 pul the jin; barley and maize 1 to 2 tengas the charik; a sheep from 30 to 40 tengas; mutton 22 tengas the jin; firewood from 1 tenga to 60 pul a donkey load. In the town and neighbourhood there are about 250 houses, and consequently about 1,500 to 1,600 souls. There are two masjids, one caravan-sarái, and an elementary school. At some distance from the north end of the street is situated a quadrangular fort, the face of which fronting the town is not less than 150 sajens (350 yards). To the north of the town an uninterrupted series of gardens and ruined villages extend, deserted at the time of the Dungan invasion.

29th June.—Called on the military Mandarin at 7-30 A.M., he having called upon me when in bed the previous night, and found him asleep. Chinamen sleep late after smoking opium overnight; they say themselves, "Opium-smokers no sleep proper like Englishmen." The life of the Mandarin in the provinces must lead to sensuality and laziness; they have no interests, no sports, no modern literature.

The Turks neither drink, nor do they smoke opium or tobacco. The Tunganis both drink and smoke a little, although in China proper the Muhammadan Chinese do neither when under the eyes of their clergy. The Mongols are very fond of all intoxicating drinks, especially that distilled from mare's milk.

From Karashahar two or more cavalry soldiers were told off as an escort; no request for them was made; hitherto this infliction had been escaped. Mandarins always travel with two or three cavalymen, considering it dignified to do so.

The river (Karashahar or Haidin-kua or Kaidu-gol or Konchehdaria) has a width of about 500 yards. Current sluggish; water yellow and

loaded with silt. Average depth 3'. Temperature of water 63°. Banks, sand, and clay 2' over present level of river. Banks inland grassy and affording good grazing; kabitkas are pitched along it and on the grassy islands. Horses ford the river. In the winter the river is crossed on the ice.

There are 3 ferry-boats, flat-bottomed, and 40' long, holding 20 donkeys or 12 ponies, or 2 carts and 4 ponies. It takes 20 to 25 minutes to pole over.

This river in ancient maps is noted under the name of the *Khaid-Gol*. The geography of the vast surface of the system of this river has been circumstantially explained by the survey and descriptions of Captain Larianof in 1875 and of M. Wilkins,¹ who visited those portions of the river which pass in and out of Lake Bagrach-Kul.

The Lesser Khadik is composed of a number of mountain streams which issue from the northern slopes of the Khargati range and the pass of the same name, lying at an altitude of 11,400' above the sea. The upper course of the Lesser Khadik flows from south-east to south-west, and on emerging from the valley of the Lesser Yulduz turns due west, consequent on the horizontal position of its valley and the mass of water which it receives—a mass that is increased by the

large channel of the Zagirt, flowing from the north-west. The Khadik at the distance of 33 miles from its source overflows, forming numerous branches, like small lakes and marshes. These occupy an impassable tract of about 45 square miles. The river, however, still continues its tortuous course; and after expanding into lakes and marshes for a distance of 45 miles along the valley of the Lesser Yulduz, it once more collects its waters into one channel, and by this it enters a gorge between the Narat and Erbin mountains. The length of this gorge is 20 miles; whilst in it the stream of the river is very rapid.

The Khadik now passes into the valley of the Greater Yulduz (Chon-Yulduz). Here, changing its direction to south-east, the river takes the name of the Greater Khadik, and once more overflows its banks, forming lakes and swamps that have twice the area of those in the valley of the Lesser Yulduz. After a course of 27 miles through the valley of the Greater Yulduz, the Greater Khadik again collects its waters into one channel at the foot of the Sakhim-Tag¹ mountains, and penetrates into the snow-clad chain of the Tian-shan through a narrow and rocky gorge, 40 miles in length. Its issue into the plain takes place near Fort Karashar, as also its fall into the lake of Bagrach-Kul.

The valley of the Greater, like that of the Lesser Yulduz is surrounded by lofty, snow-clad mountains. Its surface covers approximately 245 square miles, English, one third part of which is occupied by marshy ground, whilst the western portion of the valley is com-

¹ Manuscript journals of Captain Zarianof and M. Wilkins in the Records of the Staff of the Turkistán Circle.—(Author.)

¹ According to Wilkins, the gorge through which the Khadik penetrates is called the *Dalin-Davan*.—(Author.)

pletely waterless. Both the Yulduz valleys and the mountains surrounding them are devoid of tree-growth; but both are covered with *kipets*, affording, as is known, a most nutritive fodder for horses. Up to 1871 there were in the Yulduz valleys nomad Torguts,

but they were so oppressed by the Kashgarians that they passed over the mountains, and, settling in the valley of the Kunges, began to seek Russian protection. From that time the valleys of the Yulduz have been depopulated.¹

During the winter deep snow covers the low-lying portions of the valleys and the northern slopes of the mountains only. Although snow falls on the southern slopes as well, it does not lie for any time, and therefore the Torguts keep their horses in the Yulduz valleys even during the winter. In summer there is no way of crossing the marshes in the Yulduz valleys. In the river itself there are three

Fords in the River Khadik. known fords—(a) one called Khongur-Mernek-dik. Imin, at the point where the Khadik pierces the Erbin range (this ford lies on the road from the Narat pass to Karashahar); (b) at the mouth of the Narat in the valley of the Lesser Yulduz; and (c) at the point where the Greater Khadik begins to separate into branches and form marshes in the valley of the Greater Yulduz.

Regarding the course of the Khadik through the valley of Karashahar, we have information collected on the spot by M. Wilkins.² On coming into the Karashahar valley, the course of the river is very tortuous, and forms numerous islands, thickly overgrown with reeds and bushes, and in the lower course of the river with *tugrak* (a kind of poplar). The width of the river at different points is not uniform. Its width at Karashahar amounts to 480 paces. Five miles before it reaches Lake Bagrach-Kul the Khadik separates into numerous branches, along which stretch swamps and marshes, overgrown with reeds. The general direction of the lower course of the river is south-south-east. On the Karashahar side Bagrach-Kul has no fixed shores. The low-lying country around it partakes more and more of a swampy character, and is more thickly than ever interlaced with marshy vegetation. A fine slender sort of reed grows higher and more dense, so that the road from Karashahar to the lake presents the appearance of a corridor amidst an impenetrable vegetable growth. This road is traceable only during the winter. In summer there is such a quagmire about it as to make progress for travellers, not well acquainted with the locality impossible. Here and there amongst these bogs there are patches of higher and drier ground, covered with meadow vegetation. Passage to the lake in the summer season may be effected across certain parts of these. Such places are dotted over with the wicker-work *auls* of poor Kalmuks of the Khosot tribe. The very rich, decayed soil on these patches permits of the sowing of millet, maize, and wheat, crops of which yield ten to twelve fold. These nomads are principally engaged in fishing and hunting. In the thick growths around Lake Bagrach-Kul

¹ Since 1879 the Torguts have begun to return from the Kunges valley into that of the Yulduz.—(Author.)

² According to Wilkins the river is called the *Khadin-Kuya*. We will adhere, however, to the name which Larionoff has adopted.—(Author.)

there are numbers of hares, foxes, wolves, wild pigs, and pheasants. On approaching the lake the reeds here and there grow less thickly, leaving greater or less surfaces of open water. Whole rows of such gulfs fringe the lake, and all bear the general name of Kara-su. In these the Kalmuks catch fish, principally *marniks* (*Schizothorax, sp.*).

The Musulman natives call this lake Bagrach-Kul, the Kalmuks simply Dengiz, or "the sea." Its surface presents a vast expanse of open water. Longitudinally it lies approximately north-east and south-west. Its width to the eye does not exceed 13 miles.

The shore opposite Karashahar is shut in by the wide ridge of the Greater and Lesser Khurtuk mountains. Lesser Khurtuk, beyond which in the distance appears the very grandiose mountains of the Greater Khurtuk. The Kalmuks say that the distance between both Khurtuks is 7 to 8 miles. Beyond the eastern extremity of the Lesser Khurtuk (and consequently of the lake) sands begin which stretch far away to the east.

The length of Bagrach-Kul has not been ascertained. The natives say that it is covered with ice in the middle of December, and that the ice thaws at the close of March. Consequently, it is ice-bound for more than three months. The water of Lake Bagrach-Kul is fresh. Its western end is probably lost in large marshes. Notwithstanding the proximity of the vast surface of this lake and of the mountains, the inhabitants state that rain does not often fall in the Karashahar valley. The winter here is not severe. M. Wilkins stayed on the shores of Bagrach-Kul only during the mornings of the 28th January and 9th February.

Routes Kuldja to Karashahar and Urumtsi.

From Kuldja to the Kitai picket (Chinese) on the Upper Kunges.

(According to Larionoff.)

	FROM POINT TO POINT.		TOTAL BETWEEN CHIEF PLACES.		REMARKS.
	Miles.	Fur.	Miles.	Fur.	
Kuldja. (See page 364)	...	...	...	...	From Kuldja to the Chinese bridge over the River Kásh the road runs along the right side of the Ili valley, inhabited by Taránchis and covered with fields and gardens. It is fit for wheels. Within 1 <i>verst</i> ($\frac{1}{3}$ mile) of the bridge there is a turn to the village of Mazár, lying 3 <i>versts</i> (2 miles) from this point.
Bridge over the River Kásh at its exit from the Avrala mountains.	29	6 $\frac{1}{2}$	...	...	From the bridge the road runs south-east, still along the right bank of the River Ili and from the point of junction of the Tekes with the Kunges, along the right bank of the latter up to the ford situated on the point where the Tsagma runs into the Kunges. Along this distance the road is only not fit for wheels in one place, <i>vis.</i> , at 25 <i>versts</i> (16 miles 4 $\frac{1}{2}$ furlongs) from the bridge, where the River Ili, approaching a spur of the Avrala range, forms a precipitous bank, in consequence of which the road from this place for 20 <i>versts</i> (13 miles, 2 furlongs) runs along a locality intersected by ravines and rocks.

*From Kuldja to Kitai picket (Chinese) on the Upper Kunges—
continued.*

	FROM POINT TO POINT.		TOTAL BETWEEN CHIEF PLACES.		REMARKS.
	Miles.	Fur.	Miles.	Fur.	
Ford over River Kunges.	66	2½	...	...	The width of the Kunges at the ford is 20 <i>sajens</i> (46½ yards) and the depth 1½ <i>arshins</i> (3½ feet).
Kitai picket . . .	53	0½	149	1½	From the ford to the ruins of the Kitai picket the road runs by both sides of the River Kunges, and although over an even locality, it is intersected by steep river beds flowing into the Kunges.

NOTE.—From Kuldja to the Kitai picket there is also a road along the left bank of the River Ili, but it is less suitable than that just described. Its comparative disadvantage consists in the fact that after crossing the River Ili by a ferry opposite the town of Kuldja, two other passages, those of the Rivers Tekes and Tsagma, have to be made. Besides this, as in the above route, in order to avoid the precipitous and high banks of the River Ili, opposite to where the River Kash flows into it, the road traverses a stony locality intersected by channels and studded with large stones. The spot named the Kitai picket is so called because there was once here a Kitai or Chinese picket. At this spot the Semirechia (*Sonia* of the 1st Cavalry Regiment, who were stationed here in 1874, erected huts, a saraf, cook-houses, stoves, &c.)

From the Kitai picket via the Ungut and Narat passes to the town of Karashahr.

	FROM POINT TO POINT.		TOTAL BETWEEN CHIEF PLACES.		REMARKS.
	Miles.	Fur.	Miles.	Fur.	
Kitai picket . . .	...	...	...	...	From the Kitai picket the road first runs for ½ <i>verst</i> (½ mile) along the valley east, and then turning sharply south crosses the Ungut pass of moderate height (6,800 feet). As a road for pack-animals it is quite suitable, and could easily be adapted for wheel traffic. The pass is an easy one. The descent leads to the valley of the Tsagma.
River Tsagma . . .	4	5	...	...	From here the road runs in the mountain valley of Tsagma, which has an extent of 50 <i>versts</i> (33 miles 1 furlong) in length and from 2 to 5 <i>versts</i> (1½ to 3½ miles) in breadth. This valley, forming as it were a recess of the Narat range, is covered with succulent grass, and the slopes of the hills enclosing it with wood (fir, &c.).
Narat pass . . .	18	4½	...	...	The height of this valley is from 4,000 up to 7,000 feet. A small extent is taken up with fields of the Torguts. From the descent from the Ungut pass to the Narat pass the road runs west up the Tsagma valley by its left bank. After crossing five small streams flowing into the Tsagma, the road crosses by a ford to the right bank. Running up the gently sloping channel it crosses an elevated open space, and having crossed two gentle stream-beds forming the sources of the Kunges, the road reaches the watershed of the Narat.
					The ascent to the pass is 1½ <i>versts</i> (1 mile). The height is 10,600 feet. The road winds up the slope. On the pass the road avoids the two stream-beds of the southern Narat river and descends by a gentle ridge along the left bank of this river to

From the Kitai picket viâ the Ungut and Narât pass to the town of Karashahar—concluded.

FROM POINT TO POINT.		TOTAL BETWEEN CHIEF PLACES.		REMARKS.
Miles.	Fur.	Miles.	Fur.	

the even valley of Little Ulduz. Throughout this distance it is a pack-animal road for only 20 *versts* (13 miles 2 furlongs), and this part also can be exactly prepared for wheel traffic.

The Narât pass is impassable in the winter season owing to the deep snows.

Springs of Ulziâta	. 24 4½	From the descent to the Narât pass the road runs along the northern edge of the Little Ulduz marsh at the foot of the Ulziâta mountains. After crossing four rivers with little water in them the road reaches the sacred springs of Ulziâta flowing from the mountains of the same name. From here, running over a level locality, the road reaches a projection of the Bayun-Khush mountains. For the whole distance of 65 <i>versts</i> (43 miles) from the Narât pass the road is fit for wheels.
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Kotil pass	. . 33 1½	From the Bayun-Khush spur the road runs by the right side of the river Little Khadek along the foot of the Bayun-Khush mountains. After crossing several stony beds of streams it reaches the ascent to the Kotil pass. The ascent is easy and gentle (10 <i>versts</i> , or 6 miles 5 furlongs). The height of the Kotil pass is 10,500 feet. The whole route up to the pass is suitable and could easily be made fit for wheel traffic. From the Kotil pass to Karashahar the information was only collected by M Larionoff by enquiry from Torguts who had been in Karashahar. According to these enquiries it appears that from the Kotil pass the road at first runs through a hilly locality down the defile of the River Kapchikha for 55 <i>versts</i> (36½ miles), after which it issues on a plain, along which it runs for another 20 <i>versts</i> (13 miles 2 furlongs) up to Karashahar.
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Karashahar, Town of.	49 5½	From the Kitai picket in the direction of Karashahar there is another road <i>viâ</i> the Adun-Kur pass. After crossing the River Kunges by a ford at the Kitai picket the road runs along its right bank up to its affluent—the Ulatai—for 10 <i>versts</i> (6 miles 5 furlongs), being fit for wheels throughout. At the Ulatai stream it bifurcates; one branch (the upper) runs close to the hills over undulating ground, crossing deep ravines with steep banks and studded with large stones. On the Arshân stream it joins the other branch (the lower), which, after the bifurcation at the River Ulatai, enters the narrow stony defile of the River Kunges, winding along its right bank by dangerous cornices and slopes. The length of this lower branch is 25 <i>versts</i> (16 miles 4½ furlongs); of the upper, 35 <i>versts</i> (23 miles 1½ furlongs): the latter, though 10 <i>versts</i> (6 miles 5 furlongs) longer, is the more suitable road.
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Total from Kuldja.		130 4½	279 6	On the two branches uniting at the mouth of Arshân stream, the route runs along the right bank of the Kunges, at first along a steep slope crossing deep and stony hollows, and then along the gentle declivity of the valley of the upper Kunges, by which it gradually leads to the watershed of the Adun-Kur (10,000 feet), whence it also descends gradually on the Little Ulduz plain. Here this route joins the one to Karashahar above described. This route abounds in wood and grazing. At the apex of the River Arshân there are warm mineral waters.
Karashahar, Town of —contd.	... | ... |	... | ... |	... | ... |

From the town of Kuldja viâ the Ungut, Narât, and Ulastai passes to Urumchi.

(According to Larionoff.)

	FROM POINT TO POINT.		TOTAL BETWEEN CHIEF PLACES.		REMARKS.
	Miles.	Fur.	Miles.	Fur.	
Kuldja, town of	...	...	...	...	} <i>Vide Routes supra.</i> From the Ulziâta springs, the Urumchia road separates from that to Karashahar, and runs due east over the gravelly soil of the lofty Little Ulduz plain (from 8,000 to 9,000 feet). Up to the junction of the Sarim-Usu and Zagist rivers it is fit for wheels.
Kitai picket . . .	149	1½	...	...
Narât pass . . .	23	1½	...	...
Ulziâta springs . . .	24	4¼	...	...
			196	7	
Junction of the Rivers Sarin-Usu and Zagist.	33	1	...	...	From here it becomes a good pack-road, and runs along the right bank of the River Zagist, crossing six beds with little water in them. From the mouth of the Argasin stream, by a gentle ascent up the valley of the upper Zagist, it reaches the Ulastai pass (or Zagist), 12,300 feet high. This route can be easily made a wheel-road.
Ulastai or Zagist pass	23	1¾	...	...	From here to Urumchi the information is merely from enquiries, from which it is only known that the road runs along the southern slopes of the Argasin mountains, and that as a pack-road it is satisfactory.
			56	2¾	
Urumchi	106		106		
			359	1¾	

NOTE.—From the Ulastai pass a pack-road branches off down the valley of the River Ulastia connecting with the route leading by the Kotil pass to Karashahar. It joins it in the valley of the River Kapchikha (Route 183).

From the Kitai picket viâ the Dagit pass to the town of Karashahar.

(According to Larionoff.)

	FROM POINT TO POINT.		TOTAL BETWEEN CHIEF PLACES.		REMARKS.
	Miles.	Fur.	Miles.	Fur.	
Kitai picket . . . . .	...	...	...	...	<i>V. U. S.</i> From the Ungut pass the road turns due south over hilly country for 5 versts (3 miles 2¼ furlongs) up to the entrance to the defile of the river Northern Dagit, and, after traversing the stony ascent by this river and the descent by the river Southern Dagit, it issues on the Ulduz plain. The Dagit pass is much worse than the Narât pass, as, throughout its whole extent, both along the Northern and
Ungut pass (Tsagma)	4	5	...	...

From the Kitai picket via the Dagit pass to the town of Karashahar
—continued.

	FROM POINT TO POINT.		TOTAL BETWEEN CHIEF PLACES.		REMARKS.
	Miles.	Fur.	Miles.	Fur.	
Southern Dagit rivers, it is obstructed with huge stones which have fallen down from the mountains, and has steep ascents and descents. The Dagit gorge cuts through the range called the Narát. The height of the pass is 11,270 feet. This pass is suitable for pack traffic; it would be very difficult to work it up for wheel traffic. ¹					
On issuing on to the Ulduz valley the Karashahar road turns south-east over a hilly locality, and reaches the ford over the Great Hadik river. The ford is called Khongur-Merne-Amin.					
Ford over river Great Hadik (Khadik).	7	7½	...	...	From the ford the road runs along the north side of the valley of the Great Ulduz, over hilly ground, to the Zagist river, and beyond over even ground to the point of Altin-Kaz on the River Sarmin.
Altin-Kaz . . .	13	2	...	...	From here the road runs along the left side of the River Sarmin, also over an even locality, and enters the defile of the Great Hadik.
Commencement of the defile of the Great Hadik river.	7	7½	...	...	The defile is very narrow and rocky; consequently the road through the defile is only suitable for pack-animals. The route winds along the right bank of the defile, and on reaching the defile of the River Sakhim-Tokha turns sharply up the latter. ²
Defile of the River Sakhim-Tokha.	12	4¾	...	...	Here the road runs for 10 <i>versts</i> (6 miles 5 furlongs) along an even valley, and then by a steep ascent enters mountains, the height of which is 10,000 feet.
Sakhim-Tokha pass .	6	5	...	...
Issue from the mountains on the Karashahar plain.	39	6¼	...	...	Beyond this it is known from enquiries that the road runs through mountains to its issue on the Karashahar valley. Here it is not practicable, as it is only possible to move along it in summer with light loads.
Fort Karashahar .	39	6	...	...
Total from Kuldja .	...	...	132 281	4¼ 5¾	From Great to Little Ulduz (Yulduz) there is a pack-road which at first runs along the River Sarmin for 40 <i>versts</i> (26 miles 4 furlongs), and then crossing the Sarmin range follows the defile of the river Northern Sarmin for 10 <i>versts</i> (6 miles 5 furlongs). From this it issues on the valley of Little Ulduz, and joins the road running from the Kitai picket <i>via</i> the Kotil pass and Khargasti to Karashahar. V. U. S.

¹ Twelve *versts* (7 miles 7½ furlongs) to the west of the Dagit pass there is yet another across the Narát range—the Kharnur—which is still worse than the Dagit,—so much so that it does not admit of traffic with large pack-animals.

² At the turn of the road up the River Sakhim-Tokha there is the only bridge over the river Great Hadik along the whole eastern side of the Great Ulduz valley. Across this ford a good pack-road runs west, first by the defile of the River Hadik, and then along the southern edge of the marshes and valley of the Great Ulduz.

ROUTE No. 8.

Karashahar to Aksu—continued from page 477.

1ST STAGE.

The road beyond the river is a narrow winding track over the grassy plain; soil clay. Flies and mosquitoes numerous. The grass is of a reedy character and affords abundance of grazing; it is known as "*chi*," and grows to a height of 2' 6"; when chopped, it takes the place of straw in the mule ration, and, although less nutritive, it does at a pinch. The ruins of an old city are passed shortly after crossing the river. The hills are distant 30 miles to the south-east and 20 miles to the north-west. The plain is well watered by canals. Villages and farmsteads are rare, however. Four miles from Szunichenza the hollow road, taking one line of traffic, winds amidst sand-hills.

SZUNI-CHENZA.—6 hours.—42 *li*.

Inn and small spring; grazing (*chi*). A nest of mosquitoes.

The track continues over a barren soil and amidst sand-hills, generally over a flat, descending gradually soon after leaving the station. At 7 miles the River Karashahar is skirted; here a stream from 50' to 100' wide, flowing in a deep bed between grassy banks. The road on entering the hills, which here stretch as a low range into the desert, becomes a broad ledge along its right bank. Ravine 300 yards wide. Hills rocky, steep, and barren. Indications of coal are well marked. Mosquitoes swarm about the river bank.

At 11 miles the custom-house enclosure Khurman-tai is threaded.

The road now undulates along the right bank of the river, which is here a rapid and broad torrent, flowing in a bouldery bed between perpendicular cliffs of rock; some of the inclines are steep ($\frac{1}{4}$), rocky and difficult for carts. The road at 18 miles gradually leaves the hills down a widening and descending gorge, and enters the cultivation and tree-growth of the fertile oasis of Khur.

The pass, together with the approaches to it on either side, are very defensible.

KHUR.—7 hours.—56 *li*.—Bar. 26.7".—Temp. 70°. (3,100'.)
(Elevation by Prejvalski 2,600'.)

The town is rectangular in plan and surrounded by a mud wall, 15' to 18' high, of 300 to 400 yards side, provided with partial ramparts and flanking defences at the central gateways and angles. In front of the broad covered way is a low musketry mud wall; the V-shaped moat has a top width of from 15' to 30', and if cleared out a depth of 15'. Its garrison, 25 Mongol cavalry.

The town is said to have a population of 2,000 Turk, 50 Tungani, and 10 Chinese families. It is ruled by a Mandarin of low grade, a Wang. The river is only known locally as the Karashahar river. The hills passed are spoken of as Khárman-kow and Khárman-tai.

From Khur by bridle-paths through the hills, Ili can be reached by horsemen in five days. Grass is plentiful within the hills. The route to Sanju by Lob-nor and that by Lob-nor to Khoten are not now in use; the only reason given for this is that the inhabitants

along them will not act as guides. (*See page 331.*) The local and popular Chinese idea is that the waters of Lob-nor flow under the sand, to issue again near Sanju and at Pa-li-kun (Barkul), and to flow thence into the Yellow River.

Note that the level of Lob-nor is 2,200', that of Barkul lake about 5,100', and of Sanju about 3,700'.

The river is spanned at Khur by a solid wooden bridge. The road beyond it leads to Lao-ching, an old Turk town, 5 *li* distant, having (in town and the vicinity) 8,000 families.

The oasis is at least five miles broad (as far as seen). The Turk town is quadrangular, with two gates, north and south, joined by a straight street, 900 yards long.

The Kurlia Circle gave in 1876 a heradj tax of 200,000 chariks, a tanap tax of 120,000 tengas, and a ziaket tax of 150,000 tengas. (*See page 433.*)

Kurlia Circle.

To these figures must be added the contributions from the village of Bugur and of the neighbouring hamlets,—a heradj tax of 40,000 chariks, a tanap tax of 20,000 tengas, and a ziaket tax of 25,000 tengas. The town of Kurlia, with the villages belonging to it, yielded a heradj tax of 85,000 chariks, a tanap tax of 65,000 tengas, and a ziaket tax of from 45,000 to 48,000 tengas.—(*Kuropatkin.*)

Colonel Bell crossed the Tian-shan by the routes from Hami to Barkul and Urumtsi to Toksun, both easy passes and cart-tracks.

Communications.

The main road from Urumtsi, a cart-track as noted, led on to Kuldja; a mule-track leads from Kuldja to Khur or Khorlia through the Kunges and Yulduz valleys (*all described*).

The only other route from Kuldja of any importance as far west as Aksu is the Musart route (*described in pages 406 et seq.*).

The Kunges and Yulduz valley route, as described by Prejvalski, is here given, together with a description of the country between Korla, Lob-nor, and the Altyn-tagh mountains, 13,000 to 14,000 feet high, bordering the desert to the south, abstracted from the works of Colonel Prejvalski and Mr. Carey, C.S.

At various stages such information as it was possible to obtain of the country and routes between Lob-nor and the Hami, Su-chow road have been given. Chinamen rarely visit the lake and few know anything about it.

A Diary of a Journey from KULDJA across the TIAN-SHAN to LOB-NOR,—by COLONEL N. PREJVALSKI, 1876.

12th August 1876.—Left Kuldja, and proceeded at first up, and almost alongside, the bank of the Ili, whose valley is here thickly settled by Taranchis. Clean pretty villages, with gardens, shaded by lofty silver poplars, follow each other in quick succession. In the intervals are corn-fields, irrigated by numerous water-courses, whilst on the meadows along the river's bank large herds of sheep, oxen, and horses graze. The population is everywhere apparently prosperous, the Muhammadan rising never having desolated this part of the valley. Crossing to the left bank of the Ili, near the mouth of the Kash (50 versts beyond Kuldja), continued as before to ascend its valley, in

this part 20 versts ($13\frac{1}{2}$ miles) wide, and having the appearance of a steppe plain, with a clayey and slightly saline soil, producing various herbs and plants, and small gnarled bushes; the river bank is fringed with thick cane-brake. (*See pages 599, 603.*)

The Ili, near the mouth of the Kash, is 500' wide, with a very rapid stream. Taranchi villages continue for 12 versts further up the right bank from the confluence of the Kash; the left bank has no settled population. Here only occasional fields temporarily tilled by the Kalmuks may be seen, and these only nearer the River Tekes. The last-named stream flows from the Mussart, and unites with the Kunges, to form the Ili, which empties its muddy waters into Lake Balkash.

The Tekes, here 350' wide, with a terribly swift stream, was crossed in small, rotten ferry-boats, after which the road lay in the same easterly direction by the valley of the lower Kunges, which is hardly distinguishable from that of the upper Ili, excepting that feather-grass is more abundant. The hills bordering the valley, as before, are covered with grass, rounded in outline, and totally bare of trees as far as the River Tsanma. Here the last of the fields and encampments of the Turgutes are seen; beyond this point, as far as the Karashahar valley, no inhabitants are to be met with. The flora of the plain hitherto traversed from Kuldja was very scanty, and the fauna equally deficient.

As the elevation of the country rises beyond the Tsanma (Kuldja is about 2,000' above sea-level) the valley of the Kunges becomes narrower and more fertile. Excellent and varied herbage clothes the undulating plain, growing higher and thicker every 10 versts or so; the outline marginal hills becomes sterner, and spruce firs begin to show themselves, their lower belt marking the limit of the summer rains. Rain, however, does fall, although perhaps less abundantly, in the steppe zone, where the elevation is 4,000', or even somewhat less. At this point larch woods begin growing on the banks of the Kunges itself, interspersed with tall poplars (some 80' high, with stems 3' and 5' thick) and apple trees, and thick underwood.

The islands in the river are thickly overgrown with willow, and the meadows and slopes of the neighbouring hills are clothed with the thickest grass, which withers and dies at this season (early in September).

A range of no great elevation, crossed by a pass 6,000' high, separates the Kunges from the broad valley of the Tsanma. Although not more than 8 versts apart, the difference in the height of the respective valleys of the Kunges and Tsanma is nearly 2,000'. From the pass they may be seen on either hand.

The valley of the Tsanma is about 4 versts wide, and thickly clothed with high grass. Along the upper course of the river, commencing at an elevation of 6,000', are forests, whose prevailing trees are the Tian-shan spruce, which is 70' to 80' high and from 2' to 4' in diameter, and the mountain ash. Spruce firs are also scattered in clumps over the neighbouring mountains, growing as high as 8,000' above sea-level. Light frosts now setting in, and snow visible on the higher mountains.

Ascended the Kunges, and afterwards the Tzanma to its source, and moved towards the foot of the Narát range, which, with its western prolongations, forms the northern buttress of an extensive and lofty plateau, situated in the very heart of the Tian-shan, and known by the name of Yulduz.

The solitary peaks of the Narát, with their steep slopes, are scored with bare precipitous cliffs, forming narrow, gloomy chasms. Below these again are alpine meadows, and, lower still, on the northern side, clumps of spruce fir; the southern slopes are treeless.

Crossed this range at its eastern extremity, where the ascent is not particularly steep, though difficult for camels; on the Yulduz side the descent is very gradual. Snow lay in small quantities on the northern slopes during the march, *i.e.* in the middle of September, whereas on its south side the Narát was free of snow. The pass is 9,800' above sea-level. Descending the Narát, Yulduz was entered. It forms an extensive depression, continuing for some hundreds of versts from east to west; the pasturage is excellent in every part. Yulduz consists of two parts,—Greater Yulduz occupying the more extensive westerly half of the whole depression, and Lesser Yulduz the smaller eastern part; both having the same general features. Lesser Yulduz, the whole of which was traversed, has the appearance of a steppe plain, extending lengthways for 135 versts, and widening in the centre to 30 versts.

Near the marginal mountains this plain is hillocky, and covered with luxuriant herbage. Here, too, chiefly in its eastern part, grow low stunted bushes of camel-thorn, willow, and *Potentilla*. Of trees there are none in Yulduz.

The elevation of Lesser Yulduz is from 7,000' to 8,000' above the sea. The marginal ranges on the north and south are wild, rocky, and of great elevation, not only above the level of the sea, but also above that of the adjacent plain; the southern range, dividing Lesser from Greater Yulduz, rises in several places above the limit of perpetual snow.

Exactly in the centre of Lesser Yulduz, and throughout its entire length, flows the Baga Yulduz-gol, uniting with the Kaidu-gol, after the latter has drained Greater Yulduz, and finally emptying into Lake Bagarash.

The Baga Yulduz-gol was forded, but in spring and summer the water is too high to allow of the fords being practicable. Fish are plentiful, both in the Baga Yulduz-gol, as well as in its tributaries, but only of two kinds,—dyptichus and gudgeon. About half-way down this river, and for some distance on either side, are marshes and lakelets, with numbers of water-fowl. Yulduz is very rich in mammalia; bears, *ovis poli*, wild goat, deer, pygargs, Siberian marmot, wolves, and foxes.

There are absolutely no inhabitants in either Yulduz, although not above eleven years ago Turgutes lived here to the number of 1,000 kubitkas. Plundered by the Dungans, these nomads retired, partly to Shikho, and partly to the Kaidu-gol, to the neighbourhood of Kara-shahar; while some escaped to the Ili.

Now entered the Kaidu valley, crossing the southern slope of the

Tian-shan. The ascent of the pass, from the Yulduz side, is very gradual, although the elevation above sea-level is at least 9,300'. The descent is extremely difficult. For about 40 versts the barely distinguishable track follows the defile of the Habtsagai, and for 22 versts further that of the Balgantai river. Both these ravines are exceedingly narrow, their beds strewn with *débris* of rock and pebbles, and their sides walled by huge, precipitous cliffs.

The banks of the streams are thickly covered with willow and tamarisk bushes; lower down, at an elevation of about 6,000', buckthorn and elms appear, and, still lower, barberry and oleaster; the only grasses found in the ravines are *lasioyrogrostis* and reeds. The surrounding mountains are entirely bereft of vegetation, the neighbouring desert having affixed the seal of death on this side of the Tian-shan.

Atmospheric precipitations, although plentiful on the northern side of the range, where the rain-clouds deposit their moisture, are absent here, and it is probable that the whole southern slope of the eastern Tian-shan is arid and barren.

Upon entering the Kaidu valley, a descent to 3,400' above sea-level was made. The weather became warm, and the morning frosts no longer severe, whilst in Yulduz, towards the end of September, the thermometer marked 10° Fahr. at sunrise, and snow fell occasionally. Arrived at the camping-ground of Karamoto, the Muhammadans in the vicinity fled, and a picket was stationed on the opposite bank of the Kaidu, to watch the party.

The Kaidu river is from 200' to 270' wide at Karamoto, with a very rapid stream, and a depth of 3 to 4 feet at the fords, which, during summer, are entirely impassable. Fish are plentiful in the river, and also in Lake Bagarash, into which the Kaidu empties. This lake lies not far to the west of Karashahar, and is very large and deep.

Leaving Karamoto, reached Korla, a distance of 62 versts, in three days, crossing *en route* the last spur of the Tian-shan by a defile, through which rushes the Koncheh daria, flowing out of Bagarash into the Tarim. At either end of this defile, which is 10 versts long and very narrow, stands a mud fort, garrisoned by a small force (*See page 485.*)

The party was placed under surveillance at Korla, by order of Yákúb Beg, and subsequently the authorities refused to supply any information about the town or surrounding country.

The town and neighbouring district is said to contain 6,000 inhabitants of both sexes. The town consists of two parts, each surrounded with mud walls; the old commercial town and the new fort occupied only by troops, most of whom had left for Toksun, where fortifications were being erected.

Left Korla for Lob-nor on 4th November, and were led to the Tarim by the most difficult road,¹ crossing two large and deep streams, the Koncheh and Inchikeh daria, by swimming. The thermometer stood at 40° Fahr. at sunrise.

¹ This was done to dishearten the Mission and make it return.

Before reaching Lake Lob, a march was made due south, striking the valley of the Tarim at a point 86 versts distant from Korla. For some way the country has the appearance of an undulating plain, covered with a pebbly or gravelly soil, and totally devoid of vegetation, forming a belt 20 to 25 versts wide, more or less, running parallel to, and at the foot of, the Kurugh-tagh, a low, waterless, and barren range, forming the last arm of the Tian-shan in the direction of the Lob-nor desert. This range, it is said, rises on the southern shore of Lake Bagarash, and, after continuing for nearly 200 versts to the east of Korla, merges in the low clay or sand hillocks of the desert.

Beyond the stony margin lying next to the mountains lies the boundless expanse of the Tarim and Lob-nor deserts. Here the soil is loose saline loam, or drift-sand, remarkable for the absence of organic life. The Koncheh-daria flows out of Lake Bagarash, forces its way through the last spur of the Tian-shan, near Korla, and, after taking a slight bend to the south, flows in a south-easterly direction, and falls into the Kiok-ala-daria, an arm of the Tarim. Owing to the velocity of their current and the loose clay soil through which they pass, the Koncheh-daria, as well as the Tarim and all its arms and tributaries, have worn for themselves deep, trough-like channels. The width of the Koncheh-daria, where we crossed it for the second time, is 50 to 70 feet; depth 10' to 14', and even more in places. Less than 10 versts to the south of the Koncheh-daria, the Inchikeh-daria lay across the route; the latter river, after a short course to the east, loses itself in salt marshes, perhaps uniting with the Koncheh at high water. The Inchikeh is an arm of the Ugen-daria, which falls into the Tarim close by, after rising in the Mussart and flowing past the towns of Bai and Sairam. In the meridian of the town of Bugur an arm separates from the Ugen-daria, uniting with the Tarim on the right, and a little further down the Inchikeh-daria branches off to the left.

The Tarim was reached at the point where it is joined by the Ugen-daria, a stream 56' to 70' wide. The Tarim itself is here a considerable river, from 350' to 400' wide, with a depth of not less than 20 feet. The stream is very rapid and flows in one channel. At this point the river reaches its furthest northing; hence it continues in a south-easterly course, then almost due south, and before finally emptying into Lob-nor, debouches in Lake Buran. Fifty versts below the mouth of the Ugen-daria, a large arm, the Kiok-ala-daria (about 150' wide) separates from Tarim, and flows in an independent channel for about 130 versts before re-uniting with the parent river. Into this arm flows the Koncheh-daria from the north.

Sandy wastes continue the whole way down the Tarim to its confluence with Lake Kara-buran, then up the Cherchen-daria in a south-westerly direction, almost as far as the town of Keria, and a long way up the Tarim from the mouth of the Ugen-daria. The whole country between the right bank of the Tarim and the oases at the foot of the Kuen-lun is uninhabitable.

Vegetation is scanty in the extreme. Poplars attain a height of 25' to 35', with an almost invariably hollow and crooked trunk, from one to three feet thick.

Fauna; flora.

Oleasters, bushes of the bean family, tall cane-brake and *Typha* on the lakes and marshes, wild pea and astragalus, with two or three representatives of the genus *Compositæ* complete the list of plants, &c., of the Tarim and Lob-nor. Neither meadows, grass, nor flowers are to be seen. This country is, in general, as deficient in the variety as it is in the number of its mammals. Wild boar and hares excepted, all animals are comparatively few and some very scarce. The wild camel still exists here. Birds also are scarce. Fish are abundant, and constitute the chief sustenance of the inhabitants.

Population is first met, on descending the Tarim, at the mouth of the Ugen-daria. For administrative purposes the people are divided into two districts, the Tarimtsi or Kara-kultsi, and the Lob-nortsi proper or Kara-kurchintsi. The Tarimtsi have a curiously mixed type of features, and they are all remarkable for the pallor of their complexions, their hollow chests, and weak frames. The men are of average height, many over-tall; the women are of smaller stature. The latter invariably took to flight when their dwellings were entered.

The interpreter, a Taránchi from Kuldja, had no difficulty in making himself understood on all parts of the Tarim and Lob-nor.

The religion is Muhammadanism, with a slight admixture of heathenish rites. Their dwelling-places are constructed of reeds in the most primitive fashion. Ten or more of them compose a village, the site of which is constantly changed. The inhabitants on the Lower Tarim number 1,200 of both sexes.

The dress of the Tarimtsi consists of a camel's-hair coat and trousers, a long shirt underneath, and a sheep-skin cloak in winter; the most prosperous wear the khalat and turban. The women wear a short khalat, with girdle like that of the men, with a shirt underneath, and trousers. Their head-dress is a fur cap, with a white cloth beneath. The men shave the entire head; the women braid their back hair into two tresses. They obtain most of their clothing and utensils from the Korla merchants. Some of the former are of home make, prepared from sheep's wool, or the fibre of *Asclepias* plant, growing in abundance in the Karim valley. This cloth manufacture, and the preparation of wild beasts' skins, are their only industry, although blacksmiths and bootmakers are found among them. Fish constitutes their staple food, varied by *Asclepias* root.

Agriculture is very backward on the Lower Tarim. Wheat and barley are sown in small quantities, but the harvest is never very good, owing to the saline nature of the soil. Small sheep, fine cattle, and a few horses and asses are kept; reeds constitute the only fodder. For administrative purposes these people, together with the Lob-nortsi, are under the Governor of Korla, to whom they pay taxes.

Having crossed the Koncheh and Inchikeh rivers, the Tarim was struck at the point of its confluence with the Ugen-daria, whence another day's march led to Akhtarma, the largest of all the settlements on the Tarim and Lob-nor, and the residence of the Governor of

Tarim. Not far from this village, on the opposite side of the Tarim, lies Lake Kara-kul, which has given its name to the inhabitants of the Tarim valley. The village is 2,500', above sea-level, Korla¹ being 2,600' and Lake Lob 2,200'; therefore the fall of the Tarim, notwithstanding its rapid stream averaging 3 feet per second, is only slight.

From Akhtarma the road lay down the Tarim, now approaching its bank, now some distance from it. There is no real valley; neither the configuration nor quality of the soil changes, even on the very bank of the river. The same loamy plain and drift-sand, as in the desert, continue to within 100 paces of the water. (The valley of the Tarim, however, from the mouth of the Ugen-daria to the village of Akhtarma is distinctly defined; it is 5 or 6 versts wide, and marshy almost throughout.) The very limited belt of irrigated land is only denoted by belts of trees, thick reeds in some places, or marshes and lakes in others. Travelling here with camels is extremely difficult,—at times through woods or thick prickly jungle, at others through withered cane-brake, whose roots, as hard as iron, lacerate the camel's hoofs.

Crossed the Kiok-ala-daria, an arm of the Tarim, by raft, and made short marches, halting near the villages. The espionage was still carried on, and the party was sometimes led by circuitous roads in charge of an escort.

Sheep were supplied, and the inhabitants refused payment for them.

After marching 190 versts down the Tarim from the mouth of the Ugen-daria, the place was reached where the Kiok-ala-daria re-unites with the main stream. Here the Tarim was crossed a second time on a raft, at a place called Airilgan, where the river is 100' wide and 21' deep. After receiving the Kiok-ala-daria, the Tarim again increases, its width being between 210' and 245', and these continue to be its dimensions until it discharges into Lake Kara-buran. Fifteen versts above its outflow into the lake, a small, square, mud fort (Kurgan) has been erected on the right bank; in this there were only a few soldiers from Korla.

After uniting near Airilgan ferry with the Kiok-ala-daria, the
Kara-buran and Lob-nor. Tarim flows for about 70 versts due south, and then forms Lake Kara-buran (Black Storm), so called on account of the great waves which rise on it; and also because, with a wind from the east or north-east (most frequent in spring), it inundates the salt marshes for a great distance towards the south-west, and interrupts the communication between the Tarim and the village of Chargalyk. The lake is 30 to 35 versts long and 10 to 12 wide, 3 to 4 feet deep, and in places less than this, with, however, occasional deep pools. At the point where the Tarim flows into Kara-buran, the Cherchen-daria joins it from the west. On issuing from the lake the Tarim is again a river of some importance, but it rapidly diminishes, owing to the canals made by the people for fishing purposes. The desert arrests the further progress of the river eastward, but, before disappearing, the Tarim

¹ Perhaps 500 feet more (see page 185, and Preface, page xlv).—M. S. B.

forms by the overflow of its last waters an extensive reedy marsh known as Lob-nor, in shape irregularly elongated from south-west to north-east, its maximum length in this direction being 90 to 100 versts; its breadth nowhere exceeds 20. It is overgrown with reeds, leaving a belt of clear water (from 1 to 3 versts wide) along the southern shore, and small open spaces, studded over the reedy expanse. During the last six years the volume of water has increased, and as the former lake bed, choked with reeds, is no longer large enough to contain it, the river now overflows its shores; the clear water along the southern shore having been thus formed. The depth is mostly 2' to 3', rarely 4' or 6', and for 300 to 500 paces from the shore it barely exceeds 1'. The water is clear and sweet, except round the shores, where it is brackish. It is surrounded by saline marshes for 8 to 10 versts, after which a narrow belt of tamarisk trees follows the shore line, and beyond this again a pebbly plain, rising considerably, though gradually, to the foot of the Altyn-tagh. At the western extremity of Lake Lob, near the village of Abdullah, the Tarim has still a width of 125', greatest mean depth 14', velocity of current 170' per minute, sectional area 1,270 square feet, channel trough-shaped, as before. Twenty versts below Abdullah its width decreases to 50' to 56', and 20 versts lower to 20' to 30', although its depth is from 7' to 10' and its velocity considerable. For 20 versts further it flows as a brook of this kind, making several sharp bends, and at length entirely disappears in the reeds. Further to the north-east extend reedy and mostly impassable marshes, where reeds grow to a height of 20', and are an inch in diameter.

Fish are abundant in the lake.

The Lob-nor freezes over in November and thaws early in March, the ice being from 1' to 2' thick. In winter, when frost drives southwards the innumerable water-fowl, animal life becomes very scarce.

The commonest forms of mammalia are the tiger, wolf, fox, wild boar, hare, and *djiran*, all in small numbers.

In spring, however, Lob-nor is literally alive with water-fowl. Situated in the very midst of a wild and barren desert, half-way between north and south, it forms an admirable resting-place for birds of passage.

The inhabitants of Lob-nor, the Kara-kurchintsi, inhabit eleven villages; Cheglik, six houses; Tuguz-ata, eleven; Abdullah, six; Kuchak-ata, two; Kumchapan, fifteen; Kumluk, four; Uitun, five; Shakel, four; Kara-kurchiu, two villages, with four houses in each: besides these, nine families are settled at Chargalyk. The Kara-kurchintsi therefore number some 70 families, with a population of 300 souls.

The increase of population is very trifling, owing to the unfavourable conditions of life. Five or six children in a family are rare, the usual number being two or three. In the neighbourhood of Chargalyk the native population sow their wheat in the latter half of March, there being no land suitable for the purpose at Lob-nor itself. Besides this, a little corn is sown on some land on the Zagansaidaria, near the site of a ruined town.

In appearance the inhabitants of Kara-kurchinia and the Tarim

present a strange mixture of facial types, some of which call to mind the Mongolian race. The prevailing characteristics are, however, Aryan, though far from pure. They are below the average in height, with a weak and hollow-chested frame, prominent cheek-bones and pointed chin, a feeble growth of hair on the face, lips thick and protruding, teeth white and regular, and skin dark.

Their language is said to resemble closely the dialect of Khotan, but to be distinct from the of Korla and Turfan.

Language.

The inhabitants on the Tarim and Lob-nor are in general descended from a common stock, whilst those on the latter fell more under the influence and influx of foreigners from the oases at the foot of the Tian-shan.

The lake-dwellers of Lob-nor live in villages of square reed-made enclosures, grouped together in a clear space on the river bank. These rude structures afford very little shelter from either sun or wind.

Dwellings; food, &c.

Reeds are invaluable to the inhabitants, and another plant of equal importance is the *Asclepias*, from which yarn is spun and cloth prepared, as well as fishing-nets. The people wear a cloak and trousers: the winter head-dress is a sheep-skin cap; that in summer is of felt. The feet are uncovered, but in winter undressed hide shoes are worn.

Their food consists chiefly of fish, but in spring and part of summer and autumn ducks are trapped in nets and eaten, and they also use the tender young shoots of the reeds.

The natives of this country are as poor and weak morally as physically; they are utterly ignorant, and dwell in a state of apathy and moroseness. The Muhammadan religion prevails, but its rites and ceremonies are not attended to. Circumcision is performed in the fourth or fifth year, generally in spring, when fish and ducks are plentiful enough to provide an entertainment. Girls marry at fourteen or fifteen, and men at the same age or a little over. The lot of the women is more burdensome than that of the men; and they are very unattractive.

The winter, although short, is most trying; and in the summer flies and mosquitoes are present in myriads. The prevailing form of disease is inflammation of the eyes, caused by the saline dust which fills the air; sores on the legs and rheumatism are also not uncommon.

During the whole of November and part of December the weather was very fine, bright, and warm. The

Climate.

night frosts were as severe as 7° Fahr., but when the sun appeared the temperature rose rapidly, and it was not till the 19th December that the thermometer stood below freezing-point at mid-day. The Tarim froze in parts about this time. Gales were of rare occurrence, but the air was excessively dry, and filled with vapoury dust. Snow falls once or twice in three or four winters, and rain, too, is very unusual in summer.

From the mud fort a direction was taken due south to Chargalyk, a village founded thirty years ago by exiles and free emigrants from Khotan, containing 21 houses, including 9 houses of Lob-nortsi, and a mud fort to contain the exiles (114 of both

sexes), who are compelled to cultivate the land for Government, whilst the other inhabitants reap their own crops. The water used in irrigating the soil is led from the Chargalyk-daria, which flows from the neighbouring Altyn-tagh mountains, an elevated range south of Lob-nor.

Three hundred versts (11 days' caravan journey) to the south-west of Chargalyk, and under one Governor with it, stands the small town of Cherchen, on a river of the same name. Hence it is ten days' march in a south-west direction to the oasis of Nai (900 houses), and three days further to the town of Keria, said to contain 3,000 houses. (*See page 285.*)

One day's journey from Keria, gold is found in the mountains; and other gold-mines are situated five days' march from Cherchen, near the sources of the Cherchen-daria. The annual production is said to be 19 cwt.

On the site of the present village of Chargalyk, remains of mud walls of an ancient city, called *Ottogush-shari*, may be seen. They are said to be 2 miles in circumference, and watch-towers stand in front of the principal wall.

Two days' journey towards Cherchen, the ruins of another ancient city, *Gas-shari*, are said to exist; and there are traces of a third very large city near Lob-nor, at a place called Kunia-shari, *i.e.*, old town. The inhabitants know nothing about these remains.

LOB-NOR TO THE ALTYN-TAGH. (*Prjevalski; 1876.*)

Left Chargalyk for the Altyn-tágh, to hunt the wild camel. The range is first seen from the Airilgan ferry, and from Chargalyk it appears like a huge rampart, towering up even higher towards the south-west, where it exceeds the limit of the perpetual snow line. Their northern slopes were explored over an extent of 300 versts east of Chargalyk. Throughout the whole of this distance the Altyn-tágh serves to buttress a lofty plateau, overhanging the Lob-nor desert, and probably forming the northern limit of the Tibetan high-lands. The inhabitants stated that the south-western prolongations of the Altyn-tágh continue to margin the desert uninterruptedly as far as the towns of Keria and Khotan; also, that the range stretches a long way in an easterly direction.

In the central part of the range the topography is as follows: From Chargalyk to the Zagansai rivulet it stands perpendicularly above the barren plain, which is hardly above the level of Lake Lob. From Zagansai to Kurgan-bulak rivulet (and possibly even further east), *i.e.*, exactly south of the lake, the plain rises steeply, but gradually to the foot of the mountains (average rise 120' in the verst), until, at Asganlyk spring, it attains an elevation of 7,700' above the sea. At Kurgan-bulak, and eastward to the rivulet Zaskansai, lies a confused network of low clay hills; east of this again hillocks of drift-sand, known under the name of Kun-tágh, are reported to extend, in a broad belt, far away to the east (probably

skirting the foot of the Altyn-tágh the whole way) to within two marches of Sha-chau.

On the side of the desert the Altyn-tágh throws out spurs and branches, separated from one another by narrow valleys (10 versts long by 4 and 5 wide, and often less), a few of which attain an elevation of 11,000' above sea-level. The peaks shoot up about 2,000' or 3,000' higher.

The plateau to the south of the Altyn-tágh is from 12,000' to 13,000' above sea-level. The guides state that by going south along an old road, after crossing the Altyn-tágh, one arrives at a lofty plain, 50 versts wide, bounded by a range (20 versts in width) having no specific name; and beyond this again another plain, 40 versts wide, abounding in morasses, fed by springs, and confined on the south by a huge snowy range, the Chamen-tagh,—these two valleys, with their marginal ranges, continuing far beyond the eastern horizon, whilst on the west all three, the Altyn-tágh, the unnamed, and the Chamen-tagh, unite not far from the town of Cherchen in one snowy chain, Tuguz-daban, extending to the towns of Keria and Khotan. The natives have separate names for the two parts of the Altyn-tágh; that nearest to the Lob desert they call Astyn-tágh (*i.e.*, lower hills), and that furthest removed Ustiun-tagh (*i.e.*, upper hills). (*See page 285.*)

Clay, marls, sandstone, and limestone prevail on the outer border of the range; porphyry is not uncommon in the higher parts, but granite is rare. Water is very deficient in these mountains; even springs are rare, and in such as are to be met with the water is mostly of a bitter saline flavour. Vegetation is very scanty. Tamarisk grows at the bottom of the ravines, reeds on the damper ground (up to 9,000'), and here and there poplar, &c., may be seen.

The mammalia are: mountain sheep, and hares, common; the weasel, wolf, fox, wild camel, ovis poli, wild yak, wild ass, wild pig, &c., &c., rare. Besides these, a species of marmot and Hodgson's antelope frequent the Chamen-tágh.

Birds are scarce.

The climate in winter is extremely rigorous, and snow falls rarely, at all events on the northern slopes. In summer rains and cold winds are said to be of frequent occurrence.

Besides hunters' tracks there are two roads in these mountains;

Tracks.

one leading from Lob-nor to Tibet, the other to the town of Sha-chau. The latter is marked at

the passes and elsewhere by piles of stones, and in all probability it continues in the Altyn-tágh mountains for the rest of the way to Sha-chau, the neighbouring desert being waterless. (*See page 330.*)

The country at the foot of the Altyn-tágh is extremely barren, water is scarce, and at this season (26th December to 25th February) the frost is severe (-16° Fahr.). Fuel also is scarce. The loose, saline, clayey soil pulverises instantly, and covers everything with dust.

Returning to Lob-nor, Prejvalski wintered there.

On the 8th February enormous flocks of birds began to arrive at Lob-nor from west-south-west, and occasionally from south-west and

west, coming from India across the warmer and less elevated districts. About the middle of February the ice began to thaw rapidly on the lakes, and the weather was tolerably warm. At noon, the thermometer rose to 55° Fahr. in the shade; after sunset in the first half of the month it fell to 5° Fahr.; in the latter half it never stood below 15° Fahr. The sky was overcast with light fleecy clouds, and the atmosphere charged with dust; and twice (on both occasions from the north-east) the wind blew with the force of a gale, raising clouds of dust, which obscured the sun. No atmospheric deposits fell, and the air was terribly dry.

The lower course of the Tarim opened on the 4th February, but ice remained on the lakes till the beginning of March, and by the 10th or 12th of that month the birds had left Lob-nor.

Vegetation did not sprout till the very end of March, owing to the dryness of the air and the cold weather. There was not a single clear day all through March and the first half of April. The twilight, both morning and evening, lasted much longer than usual, and the air was thick and heavy to breathe. Although the thermometer stood at 93° Fahr. in the shade during April, it was not till the middle of the month that the leaves of the poplar began to unfold, and the other bushes and reeds still bore their wintry tint. By the 10th April the spring flight of birds was at an end.

Returned to Korla on the 25th April, and reached Yulduz in the middle of May. Here the vegetation was very backward, the deep snow being still on the ground, and even in the beginning of June night frosts, cold westerly and north-westerly winds, and snow at times, retarded the early vegetation. In the valleys and by the mountain springs, wherever the sun's rays were hottest, by the end of May, appeared forget-me-nots, dandelion, wild pea, &c., &c.

The vegetation of the Yulduz plain is not luxuriant, although its grass is mostly fit for cattle. Animal life was more abundant in Yulduz in spring than in the preceding autumn, and the increase in birds was very great. Insects are not numerous.

Early in June the Narat range was crossed, on the southern slopes of which the spring flora was more abundant than in Yulduz; and a descent was made to the head-waters of the Tsanma. Here, the climate and vegetation bore a totally different aspect: forests of spruce fir and thick grass, two feet high, clothed the valley and slopes of the mountains. Rain fell daily; the rich black soil was saturated with moisture, and the same humidity was found in the neighbouring valley of the Kunges. Only in the latter, owing to its lower elevation, vegetation was even more advanced, and flowers more profuse. Clouds of gnats and flies now made their appearance, and the change of climate, from dry and cold to damp and warmth, affected the health of the party unfavourably, particularly on first arriving on the Kunges.

(Kuldja was reached in the beginning of July, the end of the expedition.)

The Lob frontier station is Kultok-mit-kul. In general character the country from Korla was similar to that we had seen so much of on the banks of the Tarim higher up—swampy ground, covered with reeds and high coarse grass,

Lob-nor vicinity.

but we now had a good and easy road, as everything was frozen hard. In warm weather a circuitous road over the sand-hills which fringe the swamps would have to be taken. From Kirchin a road runs across the desert to Turfan, the district to which Lob is administratively attached, the Hakim Beg being subordinate to the Amban of Turfan. A direct road runs from Chaklik to Kuchar, *viá* Jigda Bushlam.

The weather during December, January, and February, though very cold, had been calm, clear, and fine; in March the cold was less severe, but high winds, with frequent dust-storms, prevailed and continued throughout April. Frosts ceased in the second week of April. (*Carey.*)

Hills; south of Lob-nor to Sa-chow or Sa-chu.

(See pages 253 *et seq.*)

My preparations being complete, I struck camp on the 29th of April and started from Chaklik for a pass over the Altyn-tágh mountains, by which I should be able to reach the road from Abdal, used by the Kalmuks of Karashahar when travelling into Tibet. Our march was at first over the strip of barren land between the lake and the mountains, but after crossing the backbone of the range at the Tash Dawan, or Stony Pass, the country much improved, and good patches of grazing were met with. This was followed by another barren track at points in which, near the Ugen Shor plain, foot-prints of wild camels were conspicuous; and we then found ourselves at Bagh Tokai, where a halt was made in a large patch of excellent pasture land for the benefit of the baggage-animals.

We crossed the Chimán-tágh range of mountains by the Amban Achkan pass. The view to the south from the top of the pass showed us a wide plain, with a good deal of water about it, and another formidable range of snowy mountains beyond in the distance. A big lake called the Chong-kum-kul stretched away to the west, further than we could see, and a large river flowed down the plain from east to west, emptying itself into the lake. On descending we found that the plain was a huge morass which could not possibly be crossed by our baggage-animals, and we therefore had to follow the right bank of the river for some 40 miles to the east before a place for crossing could be found. The Kalmuks who usually leave Abdal in May and return from Lhassa in February or March, are able to cross this plain, when homeward bound in the winter, but are obliged in summer to make a circuit to avoid the morass.

The weather now became very cold, with frequent snow-storms, while the grass was so scanty and poor as to cause us much anxiety. After a few days we attempted the passage of the Kuen-lun range.

I started to ascend the high peak near us from which a good view over the country could be obtained, but the prospect on reaching the summit after a stiff climb was most disheartening. There was no indication of any broad plain or any opening likely to lead to a pass, but a panorama of very lofty snow-clad mountains, at least 50 or 60 miles

deep, was alone visible,¹ and presented a quite insurmountable barrier to our further progress southwards. After carefully considering the position I decided to turn to the east and keep along the foot of the range until an opening was found. This also we found to be impossible, as the valley was absolutely sterile, being not only bare of vegetation, but without argals to serve as fuel. At the end of three days, and after being compelled to burn the ridge-pole of one of our tents, we struck through the mountains to the north, in search of grass, to save the lives of the animals, and happily found a less barren valley, which brought us to a place called Bokalik, at which the people, who later in the year came from Khotan and Charchan to dig for gold, maintain a sort of standing camp, leaving their baggage-animals to graze here while they push on to the gold-fields, said to lie at a distance of about 50 miles to the south.

A good deal of snow, hail, and rain fell while we were in this valley. About 17 miles from Bokalik we crossed a river flowing down from the Kuen-lun range, with a bed about $\frac{3}{4}$ mile wide. The water was of a deep brick-red colour, and fell into the river in the centre of the valley, which was now a very considerable stream. About 50 miles from Bokalik this river turned off to the north through an opening in the Chimán-tágh range, leaving us again in some perplexity as to the direction in which our march ought to be continued.

In point of fact we were no great distance from Hajjar, the residence of the Chief of the Thaichinar Mongols. Snow fell on several days and lay on the ground.

We were now able to verify our position, and found that we were between the Kuen lun and Khokosili ranges, and just south of the Angirtakshia pass.

We now turned our steps northward to Naichi, not without much reluctance and misgiving on my part, as the best season of the year for travelling was commencing, but it was an absolute necessity to obtain fresh stores. The Angirtakshia pass presented no difficulty whatever, but the Naichi pass, 6 miles further, on was steep and trying to our exhausted baggage-animals.

A few miles of easy descent brought us, on the 25th July, to Amthun, a camping-ground in the Naichi valley, with good grazing, plenty of firewood, and water from the Naichi Gol close at hand.

I made my way across the mountains by the Sosani pass, which is steep and stony, and would be quite impracticable when covered with snow. On emerging from the Kuen-lun range, a barren, sandy desert lay before us, but, following the course of a stream called Tora Gol, and keeping to the foot of the mountains, we reached a very desolate-looking piece of jungle. The ground here was saline and treacherous in many places. A narrow foot-path leads through it, which cannot be quitted except under penalty of sinking deep in a fœtid quagmire, from which animals can only be extricated with great difficulty. Beyond this the pasture ground

¹ Such a panoramic view rarely gives any indication of passages through mountains, although such may exist and be easy.—*M. S. B.*

of the Thaichinar nomads appeared in view, thickly dotted over with felt tents, and we pitched our tiny camp in the midst of them.

Sheep and butter were readily supplied, but barley and satu (meal made by grinding parched barley) could only be obtained in very small quantities and with much difficulty.

There are no traders among these Mongols; each family gets from Khorla once a year a supply of barley sufficient for its own requirements, and does not care to sell any part of it. Moreover, stocks were low, as the harvest time was approaching. Being unable to obtain barley, I determined, by advice of the Mongols, to move on to Bhaga Tsaidam, taking the road up the valley as far as Thugthi, and then striking across the salt-waste to the north. The heat on the salt-plain was great, and the ground being soft, and often covered with 2 or 3 inches of saturated brine, was most trying to the ponies, one of which died, and the others were much exhausted. Beyond, a rough path through the hills soon brought us to the lake of Bhaga Tsaidam, about 6 miles long, which is strongly impregnated with salt. My small stock of supplies being already exhausted, I sent to Golmo to obtain fresh ones, and started on with the faithful Tartar Dogpa for Hoiduthara.

The road was rough, and the horses had both cast shoes; we were therefore obliged to walk and go very slowly.

There was a good strip of country under barley at Hoiduthara, but only servants were in charge, as the farmers had gone off into the mountains with their flocks and herds to avoid the heat.

From the impossibility of obtaining trustworthy information or a competent guide before leaving Chaklik, I had unavoidably lost much time. Had I to make the journey over again I should start from Charchand, instead of Chaklik, whence Bagh Toki is reached by a good road in twelve days; then cross the Amban Achkan pass, and follow the valley south of the Chiman-tágh range past Bokalik to Bulantai. From that point I should make as straight as possible for the Naichi valley, where a stay of some duration would be necessary to rest the baggage-animals.

During the halt, sheep, butter, and such other supplies as are procurable from Golmo, might be sent for. Then the journey to the south might be resumed with a caravan in good marching order.

About 80 miles from Harmugan Namaga we reached Hajjar, the residence of the Jhasa, or chief, of the Thaichinar Mongols. The road lay through a miserable country, mostly desert, and in parts covered with a saline efflorescence. I had now seen pretty nearly the whole of Thaichinar, and found it almost as poor as the Lob district. As a pasture ground the Naichi valley is far superior to any other part of the tract of country under the Jhasa's jurisdiction, but it has the disadvantage of being too frequently visited by bands of robbers. A march of about 90 miles from Hajjar over an uneven, barren, and desolate country, with occasional beds of salt, brought us to Makhai, the pasture ground of a small settlement of nomads, and, after travelling about 50 miles further over similar country, and crossing a low range of hills by a pass called Kotuli-la, we reached the Obo or shrine in the Saithang plain, where there is a large

nomad camp. At the end of another 100 miles we arrived at Sa-chu, with a Chinese population. (*From Sa-chu to Hami, see page 340.*)

Narrative resumed from page 486.

Route No. 8.

2ND STAGE.

Corn is largely grown in the Korla district, and is the chief grain given to horses.

30th June.—Cloudless and airless day. The road winds through the well-watered oasis, bordered by willow and mulberry trees, to gain the arid skirts of the low barren hills which rise steeply and abruptly to the north; it then skirts the oasis, which has the appearance of a corn-field.

DAWAN.— $4\frac{1}{2}$ hours.—23 li.—Bar. 26.7".—Temp. 82°. (3,100'.)
Water from a canal.

3RD STAGE.

1st July.—The oasis is skirted for about 2 miles, when all becomes a desert waste, of sand and gravel. The road, a heavy track over gravel, still skirts the hills. At 18 miles low sand-mounds occur. The coralline shrub has more or less plentifully covered the plain, so far, each topping a diminutive sand-mound; at 21 miles the track winds amongst sand-hills. The tugrak tree here occurs, growing to a height of 25', with a diameter of 1'. Timber, poor; as firewood, good; tamarisk also grows. Weather, till mid-day, cloudy, with heavy gusts of wind and storms of dust. Temp. 70°; followed later by a calm, when the day became hot, sultry, and airless. Temp. 92°. Glare of sun very trying.

CHERCHU.—11 $\frac{1}{2}$ hours.—82 li.—Bar. 26.62".—Temp. 83°. (3,200'.)

(Mid-day temperature in a cool room.)

Small village and oasis; well watered. Occupied by 30 Turk and 2 or 3 Tungani families.

My Chinese servant here delivered his verdict on Kashgaria, *viz.*, "*Sin-kiang no belong very good place.*" As we journeyed westwards the country improved. Its chief charm to the traveller is the negative one of having the inns to himself and of meeting so few hatefully inquisitive Chinamen. On account of the heat and glare it here became necessary to take to night-marching: survey carried on by moonlight and stars.

4TH STAGE.

1st & 2nd July.—The narrow belt (1 mile broad) of cultivation soon ceases, and the track, heavy for carts, skirting the hills, continues over the plain of sand and gravel at its foot, amidst low sandy hillocks. Tamarisk and the coralline shrub plentifully cover it. At 3 miles an open tugrak wood is skirted and traversed. At 6 miles a tugrak wood is traversed. These woods occur at intervals along the route,

and are crowded with mosquitoes; these insects, however, ceased to be a pest at Khur. At 22 miles a small village and oasis are reached, watered by a few muddy streams from the hills to the north.

YEH-IN-GO.—9 hours.—63 *li*.

Soil sandy clay. The oasis is capable of extension. It is occupied by 50 Turk families. Crossing a plentiful stream, 20' wide, one mile out, the oasis ceases, and a waste of tamarisk growth and open tugrak woods (in patches) are traversed.

The flat plain here seems to be liable to be flooded by water streaming over it from the hills. At 6 miles the wood becomes thicker and sand-hills numerous. Chi grass (fair grazing) gradually becomes plentiful. At 8 miles an unreclaimed oasis growing chi is traversed.

4TH STAGE.

CHEDIR.—4 hours.—30 *li*.—Bar. 25.575".—Temp. 83°. (4,300'.)
(Mid-day temperature in a cool room.)

Small oasis occupied by 20 Turk families. The grass lands could be reclaimed and added to the oasis, which is a rich one, plentifully watered by turbid streams from the northern hills. Although they flow from the snows, within a distance of 20 miles, their waters are muddy and hot. They furnish, when unfiltered, a disagreeable drinking supply.

2nd & 3rd July.—The line of perpetual snow varies in the western Tian-shan from 9,000' to 10,000' above sea-level.

The track continues over the plain and runs practically over the level from Karashahar to Aksu. A mile out grass replaces cultivation, and it shortly gives way to the coralline weed. Open tugrak woods, as before, occur at intervals. Road over clay or a sandy clay soil, heavy and rutty. At 6 miles the soil is moist. Further on, the track is both rutty and dusty over a sandy clay, well covered with bush. A little chi grass grows at 8 miles, and again at 10 miles. This plain also seems to be flooded at times by water streaming over its surface. At 12 miles canals are crossed, and the cultivation of Yang-i-sar commences, well watered by a rapid river, 300 to 400 yards wide, and other streams; muddy water.

YANG-I-HISSAR.—6½ hours.—50 *li*.—Bar. 26.46".—Temp. 74°. (3,370'.)

Large village and oasis, occupied by 800 Turk and 5 Chinese families. The stream is bridged and traverses the village. Willows line the road through the oasis, which looks to be 4 or 5 miles wide. Farmsteads are dotted over it. The barren hills, 7 or 8 miles to the north and fronting the snows, are red, brown, and yellow in colour; the main range is here more broken than hitherto. Wheat is largely grown, and reaches a height of 2½' to 3'. The poppy is also cultivated and thrives.

The grazing is fair. A few cows and sheep were seen and pheasants heard. Taking the oasis to be 5 miles by 5 miles, equalling 25 square miles, and to be occupied by 800 families, or 5,000 souls, we

have a population of 200 per square mile. This seems to be a fair estimate and an average population for these oases, as much land lies fallow and much waste.

The village of the Yang-i-Hissar and the settlements belonging to it contributed in 1867 a heradj tax of 42,000 chariks, a tanap tax of from 18,000 to 21,000 tengas, and a ziaket tax from cattle of 60,000 tengas.

The inhabitants are very rich in cattle, in consequence of the excellent grazing grounds which they own.

3rd July.—Leaving the oasis at 3 miles, chi grass and tamarisk replace cultivation; this oasis might be extended, and probably the grass land was once cultivated. Soil clayey and moist. Water-courses, mostly dry, occur at 10 miles. When shallow, the water is brackish. A salty efflorescence covers (in places) the soil. Besides chi grass nothing grows. At 15 miles the track is heavy over a saline plain. Track generally heavy and bad. At 16 miles chi is again plentiful, beyond which is a muddy stream, and at 19 miles cultivation recommences, a rapid and muddy stream, 150 feet wide, first being crossed by a rough causeway, 200 yards wide, with 4' waterways (Dinar-Sai).

BUGUR.—8¼ hours.—62 *li.*—Bar. 26.5".—Temp. 81°.

Village and oasis occupied by 1,500 Turk, 15 Tungani, and 8 Chinese families. Garrison. 13 cavalry, Chinese (from Shansi). The oasis is a rich one, plentifully watered by muddy canals. Much land lies waste and more unreclaimed. It may be 12 miles by 5 miles, equalling 60 square miles. A good deal of it, however, is still under bush and reclaimable. Its population may be taken to be 9,000 souls, or about 200 to the cultivated square mile, as before.

3rd & 4th July.—Thunder-storm and few drops of rain.

The road throughout the oasis is well kept, lined by trees (chiefly willows); culverts (wooden trees laid horizontally) span the canals. Cultivation, with intervals of barren or unreclaimed and culturable lands, extend to the River Chan-bar-kai-khor, 20 *li* distant, a rapid stream 200 yards to 300 yards wide; bed bouldery; current rapid, difficult to ford and requiring a guide. The guide furnished was a Turk, who rode a bullock, which are here of a good stamp and of medium height. The river is said to empty itself into Lob-nor. The oasis continues for 5 miles beyond the river; throughout, small villages and farmsteads are dotted over it. A gravelly waste; the skirts of the snowy range, 20 miles to the north, is then traversed. Track heavy for carts. The rise in temperature on passing from the oasis to the stony waste is very apparent. The night temperature is still cool, being influenced by the neighbouring snows (Tian-shan).

YANGI-ABAD.—11 hours.—77 *li.*—Bar. 26.45". (3,400'.)

Village small, mud fort and a few shops, occupied by 270 Turk families. Water from muddy canals and streams, as usual. As a rule, there are no shops in the villages. Wheat is ripening and of excellent quality and size. Indian-corn grows luxuriantly and reaches a height of 6 feet. Every day the sky is more or less clouded over, and the day rarely passes without a storm of wind.

Some of the Chentu women simply wear a handkerchief tied tightly round the head and falling behind; others wear fur hats of dark-brown colour (like seal-skin), pyjamahs and blouse tied round the waist; the latter generally part red, which is a favourite colour. They have the Mongol class of face—that is, round and bloated; but not so the men, who generally have thin face and features. The Chentu call themselves "Hassan." All ride donkeys or ponies. Women then wear top-boots. Many of the boys are good-looking and slim, with olive complexions, aquiline features, fair eyes, and brown hair.

4th & 5th July.—Leaving the oasis, the road traverses a sandy clay or sandy and gravelly plain, growing tamarisk. The low barren range is 2 miles to the north, and behind it the snowy range is distant 20 to 30 miles. They are here of irregular heights and shapes, and much broken up into cones. They give no impression of great height. The near peaks are but thinly clad with snow. The tamarisk growth soon ceases, and is replaced by the low coralline shrub which grows abundantly (? Saxaul). At 12 miles sand-hills occur and at 24 miles tamarisk grows. At 26 miles a stony waste is crossed.

At 28 miles the oasis is entered; road through it as before. It is well watered by muddy streams and canals; the ripening corn suffuses the landscape with a yellow tint. Soil, red clay or sandy clay.

YAKA ARIK.—12¾ hours.—87 li.—Bar. 26·25".—Temp. 78°.
(3,600')

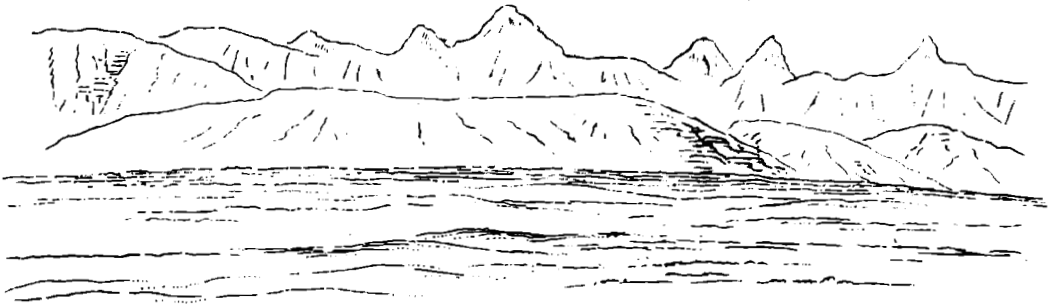
Many of the inns in the oasis villages are of size, with an inner and outer court. The village is occupied by 50 Turk families and contains several inns.

5th & 6th July.—The road, in excellent order, traverses the oasis. Villages are dotted over it at close intervals. Excellent milk, cream and curds, fowls and eggs, can be obtained in abundance. In all oases, goats, sheep, and cattle are fairly plentiful. The oasis is but partially occupied and ends at 2½ miles out, when a stretch of barren sand and gravel is crossed. Small oases, well watered at intervals, but uncultivated, occur at 5 miles, 10 miles, and 14 miles, beyond which, crossing a stream (Kok-su) 200' wide, 2' deep, and rapid, the oasis of Kuchar is entered and the native town traversed. Its houses are low, with narrow and low doors and flat roofs. These are characteristic of the Turk dwellings.

KUCHAR.—8½ hours.—Bar. 26·2.—Temp. 74°. (3,650').

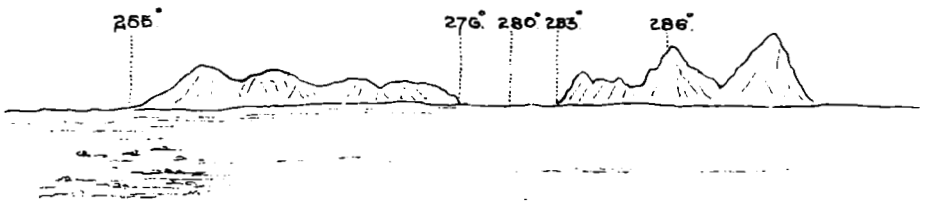
The Chinese city is entered by the south gate; its walls are 450 to 500 yards long, 15' to 18' high, 10' thick at the top, with a musketry parapet. The town walls are fronted by a covered way, 30' or so wide, with musketry parapet, and ditch 10' deep, 10' broad at bottom, and 20' at top. The gates are fronted by a musketry parapet wall, projecting 50', thus flanking the ditch. Houses, walls, ditches, &c., give cover close in under the walls. An old brass gun, in a make-shift, low, wooden bed, was seen in one of the angles of the city wall. The main street is narrow and lined by low mud huts. All roofs in the district are flat and of mud. The town cannot be considered a fortified place.

62



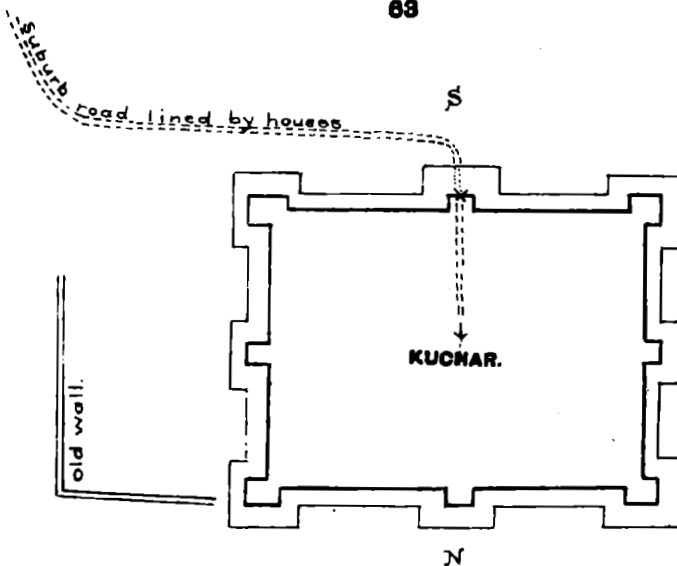
TIEN-SHAN.

62A



TERMINALS OF TIEN-SHAN.

63



Substantial wooden culverts are built over all streams and canals, where necessary, throughout the oasis, which is an extensive and rich one. Water very muddy. Several canals and streams water it. Rich ores of copper are found in the hills one day off. The Mandarin here is attempting to smelt it on a small scale to manufacture cash. The Kuchar copper ore occurs in nodules and concretions in hills of red and white sand, or sandy clay. The Aksu ore seen was light in weight, in flat layers, and of a dark-brown colour.

Copper ores.

He said that you could get to Ili through the hills in ten days, but that snow still blocked the road.

Population: Turk families, 3,050; Tungani families, 1,200; Chinese families, 30;—total, 4,280.

No English cloth is sold here. Wool costs 10 cash the cattie (1 tael=500 cash); cotton, one tael the 100 cattles; Kashgar cottons, the piece, 20' long and narrow, costs $\frac{1}{4}$ tael. Russian cotton, the piece (broad), $1\frac{1}{4}$ taels; opium costs 20 silver taels for 100 taels weight of opium; flour, 5 cash the cattie.

Prices.

The Turks keep 300 shops, the Chinese and Tungani 150—total 450.

Garrison: 500 infantry from Shansi (Si-nan-fu).

The present walled town, or fort, seems to be of recent construction—that is, since the present occupation by the Chinese,—and to be formed out of the old town walls, taking in part of its north-west angle: there are 4 gates, all similar.

There are few shops and but few huts in the new city. The Mandarin here is a Fu. A Chentu (Turk) Wang lives in the vicinity. There is said to be coal in the hills, and I saw a specimen of petrified wood, thought to be an ore of gold, because of its yellowish colour.

Streams of red mud supply the population with drinking-water; it is led in open channels through the streets and used for all purposes, ablutions included. All the shops are of a poor class.

It is pleasant to look upon the comely, buxom, good-looking Turk woman, after that distressingly hideous deformity of her sex, the Chinese woman. Women in Kashgar take their proper place and do their proper work. They never dream of hiding their rosy cheeks and large black eyes.

The Turks are tall, 5' 9" in height on an average, and well made. So are the women, who have fine hips and are well developed. They develop early and make helpful wives. A family of 5 and 6 children is common. The people multiply rapidly, and will in a few years overflow their present limits. The Turks have plenty of transport, chiefly donkeys and ponies; mules are rare. No man, woman, or child walks. All their transport animals are trained to a fast pace (3 miles an hour).

The town is garrisoned by 500 soldiers, all cavalry; their Mandarin is a Hu-nan man. All four of our escort eat opium. They get 5 taels a month and grain (beans) for their ponies, which are Government property; the soldier finds grass. They are armed with 3-grooved, rifled carbines, muzzle-loading, percussion, or old percussion muzzle-loading rifles.

The Kuchar Circle yielded in 1876 a heradj tax of 250,000 chariks, a tanap tax of 70,000 tengas, and a ziaket tax of 150,000 tengas.

Kuchar Circle.

Into these figures enter the same taxes from the town of Sha-yar.

(See page 540.)

6th & 7th July.—The broad highway, lined by young trees (willow, dark-green poplars,—high, branching, and characteristic,—and mulberry), traverses the oasis, which extends for miles to the northward; its vegetation is extremely luxuriant. At $1\frac{1}{2}$ miles the oasis is left, and the sandy and shingly skirts of the hills traversed. At 5 miles, Bar. $26^{\circ}0''$, Temp. 73° (3,800'), the top of the ridge is reached, and the road descends into a dry ravine, several hundred yards wide (300 yards); the track, heavy for carts, ascends the ravine and passes through a sea of low and intricate sand-hills, formed by water action on an elevated level of deep sand; soil moist; water brackish. At 9 miles the ravine narrows to 50 yards; this ravine, like all other passages traversed through the hills, is a natural one, formed by the ravine bottom being filled in with sand and gravel. (See page 385.) The sides of the ravine are rocky (indurated sand), water-worn, and of some height. At 12 miles an enclosure and custom-house (Dier-Sai) is passed, and at 16 miles an inn (Davana Rabat); brackish water. The ascent is very gentle to 20 miles, where a gradient of $\frac{1}{10}$ to $\frac{1}{15}$ leads to the top of the pass, Bar. $24^{\circ}85''$, Temp. 55° (5,000'). The descent is gentle and over a gravelly slope cut up by water action, into a wide valley, bounded to the north by the snowy range, 10 miles distant, and to the south by a low barren range, 3 miles off; intricate masses of indurated sand-hills front the Tian-shan range.

We traverse this valley to Charki.

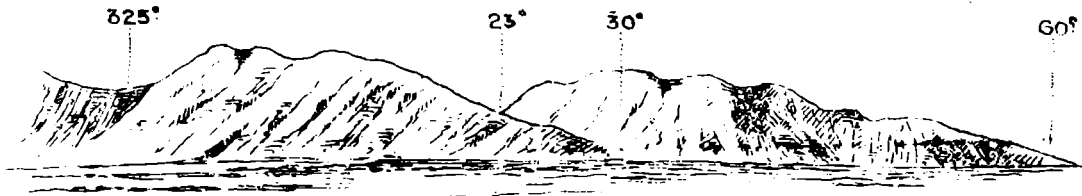
KHWORDZA.— $16\frac{3}{4}$ hours.—110 *li*.—Bar. $25^{\circ}86''$.—Temp. 85° (3,950').

Village on the skirts of the oasis which lies to the south, watered by the Kizil-su.

Population of the immediate district, 300 Turk and 20 Tungani families.

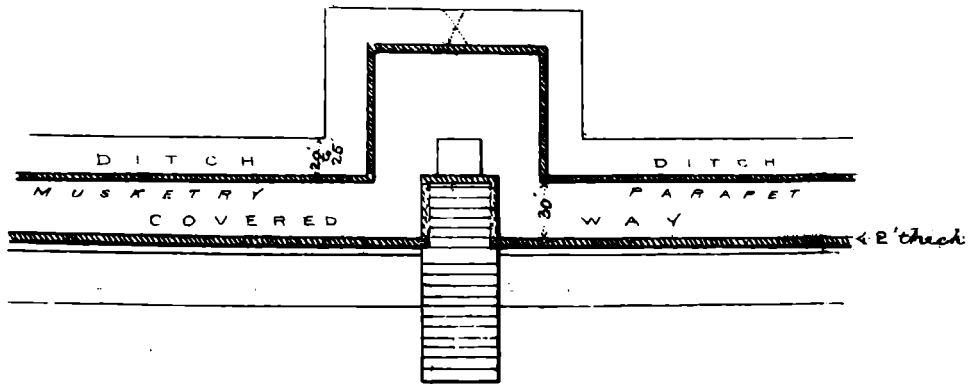
8th & 9th July.—Traversing the oasis, cross the river, 100 yards wide and 1' to 2' deep, flowing in a bed 500 yards wide, difficult to ford and requiring a guide (branch of the Shah-yar daria). At $1\frac{1}{2}$ miles leave the oasis and traverse a gravelly waste, with barren hills, 3 to 7 miles to the south, and 8 to 10 miles to the north; the oasis keeps more or less under the former. Several small streams, along whose banks trees grow, water the desert. Road generally heavy, over clay and gravel. At 5 miles is a small oasis; soil clay; road rutty. At $9\frac{1}{2}$ miles the large, rich, and well-watered oasis of Silimu, or Sairam, is traversed, said to contain 4,000 Turk families; passing through it, the road is generally 40' wide and lined by trees (willows, poplars, mulberry, &c.). The oasis looks to be 6 to 10 miles broad. Wheat and Indian-corn grow luxuriantly. The sharp morning air has a temperature of 54° , and numbs the fingers. The Silimu oasis, with minor barren patches, crossed by several streams, extends to Bai-cheng.

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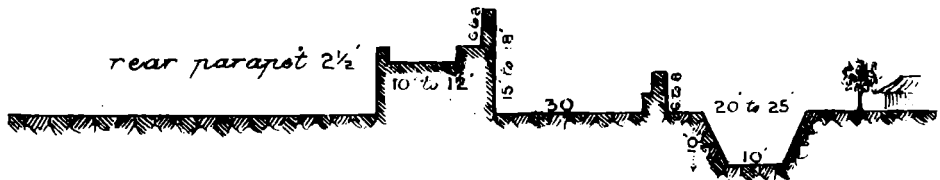


HILLS FROM KUCHAR.

65



KUCHAR.



BAI-CHENG.—13 hours.—90 *li*.—Bar. 25·72".—Temp. 80°.
(4,150'.)

In the town and district are 1,100 Turk, 100 Tungani, and 40 Chinese families.

In Silimu and district are 4,000 Turk families and 1 Tungani family.

In Kuchar town, 2,500 Turk families.

In Kuchar district, 7,000 Turk families.

Garrison, 50 cavalry. The town is called a bazár. Numbers of Turks were congregated there, it being market-day. The civil Mandarin is a Chi-hsien, under whom are the Turk police, and the Turk Beys attached to the yamen for administrative purposes. There is also a military Mandarin. Good inn outside town.

The Bai Circle in 1876 brought in a heradj tax of 80,000 chariks, a tanap tax of from 26,000 to 30,000 tengas, and a ziaket tax of from 45,000 to 50,000 tengas.

Bai Circle.

Of this quantity the yield of the village of Sairam and the surrounding hamlets is as follows: heradj tax 30,000 chariks, tanap tax from 13,000 to 14,000 tengas, ziaket tax 14,000 tengas.

8th & 9th July.—Leaving the suburb, cultivation extends to beyond the river (300' wide and from 1 to 2' deep, with a rapid current), 1½ miles from the town. At 2½ miles cultivation becomes less general, and the plain is traversed, here crossed by six branches of the river, each rapid, wide, 1' to 2' deep, flowing over shingle, with low (Janart) banks, or none at all. At 8 miles a 7th stream, 100' wide, is crossed, beyond which cultivation becomes general to 6 miles, when a barren stretch is traversed. The road is good, and lined by trees at intervals. At 21 miles is an inn, beyond which the left bank of the River Mussart is skirted. The valley is well cultivated, and 30 miles broad. Grazing is plentiful. Canals intersect it in all directions. It is remarkable for some fine clumps of dark-green poplars which grow about several of the villages. At 25 miles the river, 400' wide, rapid, and 2½' to 3' deep, is forded; the left bank of the river is then skirted, and a plain, covered with *chi* grass, traversed. The hills look to contain copper ore.

CHARKI.—12 hours.—96 *li*.—Bar. 25·1".—Temp. 70° (4,770'.)

Village of 40 Turk families. Yielded in 1876 a heradj tax of 1,500 chariks, and a tanap tax of 600 tengas.

9th & 10th July.—The broad road, lined by trees, crossing a canal, 1½ miles from the village, leaves the cultivation and passes over the barren hills which have bordered the valley to the south since the 7th July. On entering the hills the passage is up a natural ravine, 50' deep, 30' wide; the ascent is gradual and heavy for carts. The road undulates through this natural ravine with a level bottom filled in with sand and clay. At 9 miles is a small village and stream, amidst the barren hills, beyond which a sandy basin, bordered by low hills and narrow ravines, is traversed. At 52 *li* is a hut and a spring of brackish water. The hills are of indurated red clay and sand.

Thunder-storm.

The variation of temperature between early morn and mid-day is over 40°. The night temperature in these hills is still chilly. At 18 miles the pass is from 100 feet to 100 yards wide, between hills of sandy clay rising 200 feet to 300 feet in height. At 20 miles the pass is left and a broad basin of coarse felspathic sand, bordered by hills of clay, in broad bands of red and greenish yellow, crossed. At 29 miles the track descends out of the barren hills into a flat plain extending south round to east (to foot of the outliers from hills) as far as the eye can see; all looks barren for some distance from the foot of the hills; oases are seen dotted over it. Crossing a muddy stream, through a growth of tamarisk, grass and cultivation, Yurgum is reached.

YURGUM.—14¾ hours.—97 li.—Bar. 25.65".—Temp. 80°. (4,050'.)
(Small village of 30 Turk families.)

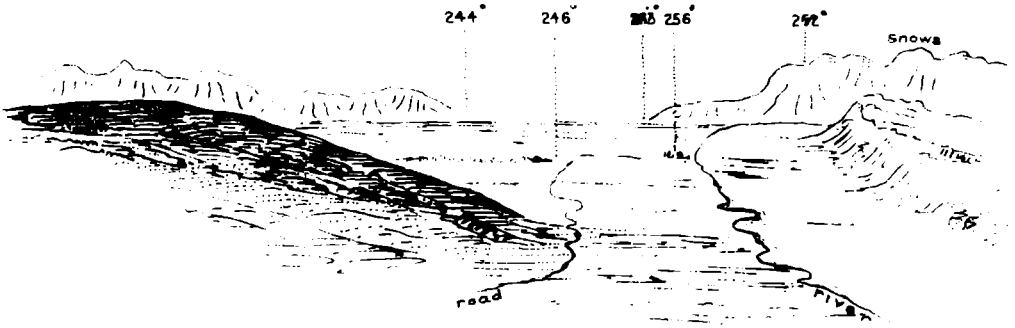
10th and 11th July.—Crossing a surface stream, 100 feet wide, and many canals, and passing through a small village and oasis at 1 mile, the road traverses a sandy plain covered with tamarisk and infested by mosquitoes. At 8½ miles and 12 miles, beds of rivers, sunk 10 feet to 15 feet, are crossed; soil, clay; track, generally winding but good, amidst sand-hills. Grazing is abundant in places, and cattle are plentiful. At 13 miles the line of the oasis is struck at its northern end, near the village of Zamatai or Jám, of 140 Turk families. Jám is the Chentu (Turk) name of the village.

Chentu girls marry at the age of 17 and 18. No money is paid by the husband, but presents are given and preparations made to receive the wife at his home. The "Chentus" (Turks) and "Whei Whei" or Chinese Muhammadans do not intermarry. A Chinaman will take either to wife, but the latter will not give their daughters to them. A China girl marries at 17 or 18 years; many have no families; contracting the feet weakens them, opium-smoking destroys the vitality of the men. History, it would seem, is likely to repeat itself, and the people of Kashgaria to return to re-people Kansuh, if only a long interval of peace ensue, and they become tributary to an aggressive power. (*See pages 470 et seq.*)

The low hills are about 20 miles to the north, and behind them are masses of snow-clad peaks.

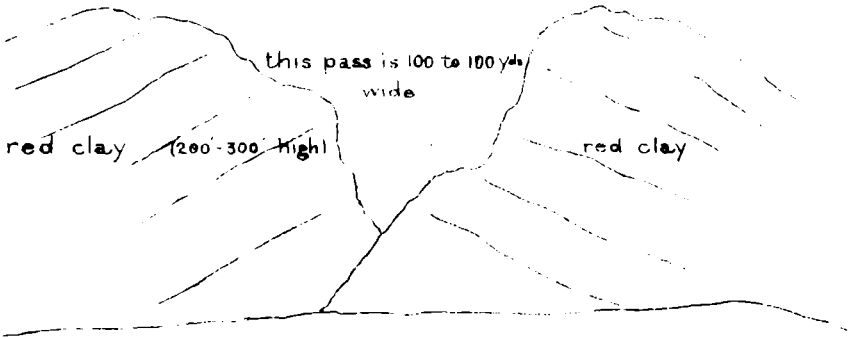
The well-watered and partially cultivated oasis is traversed or skirted to 29 miles, when the track lies over a barren plain, in the midst of which lies a small village and inn. The road is generally, throughout the stage, 40 feet wide, and lined by trees or shrubs; soil generally poor and sandy; much of it grows a thorn bush or other, economically speaking, useless shrub. Farmsteads are dotted over it. Before descending steeply into the depression in which Aksu lies, a large graveyard is traversed; tombs, domed; some are enclosed and the enclosures entered by gateways of Muhammadan design, the first poor attempt at architecture seen in Yeddi-shahar or Kashgaria.

66



MUZART VALLEY.

67

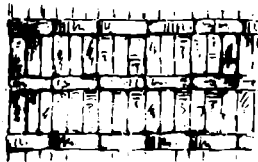


HILLS BETWEEN MUZART AND TARIM VALLEYS.

68



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18 July 88

BRICK WORK.

AKSU.—11½ hours.—93 li.—Bar. 25'95".—Temp. 73°. (3,750'.)
(Old or Turk city.)

Through a poor suburb, or rather what turns out to be the Chentu town of "Aksu," a fearful place of squalor and hot-bed of disease, especially, very apparently, of small-pox. After winding through narrow streets, shut off into quarters by gates, reach the Chinese quarter, and a most filthy inn, full of flies, into which crowd after us measly specimens of inquisitively rude and obnoxious Chinamen. From a level sandy plain, the ground at Aksu becomes uneven, and the town lies in a hollow, surrounded by sandy clay cliffs. Houses mount up their sides; all are of clay; flat-roofed, low, and entered by narrow doors—a very poor class of dwelling.

AKSU CIRCLE.

The Aksu Circle yielded in 1876 to Yákúb Beg a heradj tax of from 1,500,000 to 2,000,000 chariks, a tanap tax of 100,000 tengas, and a ziaket tax, from its cattle of 60,000 tengas.

The population of the circle amounted to 30,000 families. (*Kuro-patkin, 1876*).

Gufur Khan, an inspector of foreigners, or Aksakál, was most attentive and gave information as below.

There are 180,000 souls in the Aksu district, which extends to within 3 marches of Maralbashi and 2 of Bai. (*See page 541*). In the town are 4,010 houses; there are about 100 foreign traders in it, of whom 3 are Panjábis. In the Bai district there are about 40,000 souls. In this district there are 1,000 infantry and 500 cavalry. The Aksu army, occupying the country from Ush Turfan to Turfan in 1880, numbered 9,000 to 10,000 men. Between the Ili border (occupied by the Russians) and Barkul were some 18,000 men in the same year.

In some years it snows a little here, and in others none falls.

This is the 5th Chinese month. The Muzart pass is most used during the 7th, 8th, and 9th months. A caravan that arrived here from Ili in April suffered much from cold and frost-bite, taking 18 days over the journey, Ili to Aksu, instead of 8, an ordinary time. They encountered heavy snow.

Caravans go and come monthly from Ili by the Muzart pass, which, it is said, is never closed and is not difficult: they take 16 days. For three days an uninhabited country is traversed; then a tribe of Kirghiz is met with. The Shumál and the resulting excessive cold are alone to be feared, not snow. The alternative route is *viá* Ush to Karakol 12 days, also open all the year round, it is said. (*See page 513*.)

The Chentus are not considered brave. They like the Chinese, who do not interfere with their religion or customs. The *shariyat* is in full force. The country wants to be fostered, and this the Chinese do not do. They take what they can, $\frac{1}{10}$ of produce and $\frac{1}{40}$ of the value of merchandise, but do nothing to improve the country for the people. Rule scarcely exists. The Chinese is a very careless rule; opium-smoking dulls their senses. The Turk Beys oppress at times if the opportunity offer. The employers of labour and the

authorities pay very small wages, *i.e.*, 1½ rupees a month to a chup-rassi, and so in proportion to higher officials. Both English and Indian goods are sold in the bazár, coming by way of Leh, but prices are cheap and not remunerative, as people have little silver, and trade is not brisk. A tribe of Kitai-Kalmuks breed ponies in the hills to the north of Aksu, of a good stamp. (*See page 541.*)

Carters reckon it 18 days to Kashgar from Aksu, and 6 days from Kashgar to Yarkand. A fair price for a four-horsed cart is said to be 250 tengas to Kashgar, and thence 50 tengas to Yarkand (a tenga equals 2¼ annas, and 20 go to the tael).

There are 500 Whei Whei, or Chinese Muhammadans, and 500 Chinese heathen families in the town; the rest are all Chentus (Turks).

Entertained two carts for Yarkand, *via* Kashgar, to do the journey in 18 days at 26 taels each. The carters prefer, however, to take 22 taels and do the journey in 24 stages. The horses are of a good stamp. Many of those in the Sin-kiang province and of the mules in Kansuh are fitted for field artillery.

12th July.—Bar. 25·95".—Temp 73° (in-doors; 7-30 A.M.)

Caravans of ponies and donkeys go to Ush-Turfan in 1½ days, and thence to Kashgar in 6 or 7 days (5 or 6?). There are not villages or saráis at every stage, and for two or three days water is wanting. It is a hot journey amongst low hills. (*See Lieutenant Younghusband's Report, page 515.*)

To Khotan it is 17 to 18 days. Caravans of ponies and donkeys come and go frequently. There are many stages without saráis or villages. The road is safe. (*See page 540.*)

Khotan is a small but rich oasis, with six small towns. It exports gold and silk. The road follows the course of the river.

Alumdín, a Pesháwari merchant, considers that there would be a large sale for Indian teas throughout Kashgaria, as the Turks favour them. The Chinese, however, prohibit their sale, and order Chinese brick tea alone to be sold: they burnt his stock of Indian tea (over a maund). He finds it difficult to collect debts due to him; the Chinese authorities do nothing to help traders, or, if they do, their help is bought at too high a cost. There is also here "Alláhi Bux," a blacksmith from Sialkot, who came in the Badaulat's time and is now a zemindár, with a Chentu wife. He praises the Kitai and lauds their good treatment of him. The Russians have an aksakál here to aid traders, and the presence of the Russian consul at Kashgar ensures complaints of Russian subjects being eventually attended to. Indian traders enjoy no such advantages.

The Aksutians suffer from a severe fever, of which four and five of one family die. The difference between the temperature of day and night must be injurious to health, and cause severe stomach complaints. Goitre and eye-diseases are also common. Cholera is rare.

The new Chinese town occupies a much better site; doubtless too much rice will be grown about it in time, and fever be equally prevalent there.

Apples and apricots are abundant at this season, and there are plenty of vegetables in the bazárs. Shops poor. The Russian cottons and chintzes sold far outnumber the Indian varieties. Kashmir goods do not find a ready sale. The Chinese make no presents, and buy only for their own wants. Kin-kob is in small demand and sells at 50 per cent. over the Indian price.

In my passage through the bazárs a Chentu would accompany me, informing the curious that I was a Farangí, *i. e.*, one of a race known as the conquerors of India and the successors to the inheritance of its Moghul dynasty. This fact connects the British in the mind of the Oriental with the dynasty of Chenghiz and Timur—a no small matter. (*See page 444.*) A Chinaman or a Dungan, however, never failed to make equally known that to him I was a “*yanquesah*,” a “foreign devil.”

3-15 P.M.—Bar. 25'9". Temperature of room 77°.

Thousands of flies. Received as present from the Hakim or Taotai, 1 bag of grain, 1 bag of rice, and 1,000 cash! This is the custom of the country. The houses of the town have chimneys. The Chentus are fond of flowers, and grow them in pots.

Flour costs 5 cash and 3 cash the cattie, as ground by donkey or water power: rice cost 5 cash the cattie; 1 tael equals 550 cash. One Yambu equals R170, or from 1,180 to 1,300 tengas.

There are no military workshops at Aksu, or powder factory. In the time of Yákúb Beg there was a small-arms workshop, chiefly manned by Panjábis. All munitions of war come from China. The foreign shopkeepers here call the Chentus a “*Bhukha-dil*” people; they are poor and are content with little. The Chentus do not perform military service; they seem a people without any sense of regularity or order.

The Taotai or Amban of Aksu's jurisdiction extends from Karashahar to Chilian; there are three or more Chinese Mandarins under him. The Chentus are employed in posts similar to those of Tahsildars only, to collect revenue; $\frac{1}{10}$ of crops and $\frac{1}{40}$ of goats and sheep, &c.

Gufur Khan thinks that Chinese here have no aptitude for fighting, and that a few Russian troops could take the country. There is no *Nizám*; formerly there used to be.

He states that the Turk girls marry at twelve and have children at fourteen. As wives they are not famed for virtue, and not to be trusted. A man marries up to four wives if he can afford it. Men marry as early as sixteen, at will. Marriage is easy; a few clothes and 100 tengas (outside price) alone have to be paid for a wife (1 tenga = $2\frac{1}{4}$ annas). Women are prolific, having up to twelve children. Temporary marriages are the custom; a woman may have thirty-six husbands in her life-time, and such are known. This is thought no shame; all this is bad for the children and the country: he thinks that it is the result of Chinese rule, as the custom is an ancient one. The men, he says, are without *himmat*; that they have poor constitutions, and faint hearts, no foresight or forethought.

The Chentu carters are lazy lubbers and won't start early; they sleep all night and all day in the carts. They are light-hearted and playful, negligent of duty and careless, fond of bawling a dirge at the tops of their voices. All the men seem the same in disposition. Servants are cheap, getting clothes and 100 tengas a year. All food-stuffs are cheap.

Yákúb Beg's attempts to reform the morals of society made him unpopular. There were no harlots in his day. They have now streets set apart for them in such towns as Yarkand and frequent some of the inns.

12th July.—The old Chinese town, now deserted, adjoins the Chinese town; leaving it, the road traverses extensive rice-fields. It is 15 feet wide and embanked 1 to 2 feet. At 2 miles it ascends to the barren plain bordering the valley through a 10-foot gully, descending into it again at 5 miles; habitations increasing as the city is neared and giving cover up to its gates.

1ST STAGE.

AKSU.—2½ hours.—22 *li.*—Bar. 26·05". (3,700'.)
(Chinese City.)

The town is built square, on a line bearing 55°; side, 1,000 yards, about; walls 20 feet thick, 15 to 18 feet high; musketry parapet 6 feet high and 3 feet thick; the projectures at the angles are 40 to 50 feet long, those at the gates 150 to 200 feet; covered way 50 feet wide, with musketry parapet, 6 to 8 feet high; ditch 30 to 40 feet wide and shallow; it can be cleared out readily and filled with water. The houses of the suburb abut on the wall to the east and on both sides of the angle of the east face; on other sides is cultivation, and, more or less, trees. It contains large granaries; shops are being built. It is four years since it was commenced; the gateways in the centre of each side are double, and 100 feet deep; the covered way runs round their projections. A good number of Chentus were seen at work, building stores. This new Chinese town of Aksu was wholly built by forced Chentu labour. Each man received subsistence allowance of 6 cash, equal to 1 anna; a day; two to three hundred died from accidental causes. The Chinese are oppressive in this way. In it reside a Taotai or Amban and Judge.

The route from Aksu to Kashgar is described by Kostenko in Route No. 195 of his "Turkistán Region."

The route from Karashahar to Aksu is described by him in Routes Nos. 196 and 197 of his "Turkistán Region."

From Aksu the road *viá* Uch-Turfan, and the Bedel pass to Karakol, is described in Route No. 192 of his "Turkistán Region."

The road from Kuldja to Aksu by the Muzart pass is described in Routes Nos. 188 and 189 of his "Turkistán Region." (*See page 406.*)

From the town of Aksu viâ the town of Uch-Turfán and the Bedel pass to the town of Káarakol.

[According to Sunarguloff, who travelled by this route in 1877.]

	FROM POINT TO POINT,		TOTAL BETWEEN CHIEF PLACES.		REMARKS.
	Miles.	Fur.	Miles.	Fur.	
Aksu, Town of . . .	...	...	...	...	From Aksu the road for 8 <i>versts</i> (5 miles 2½ furlongs) runs through gardens and villages, over low ground taken up with rice, reckoned the best in the whole of Kashgar. Sandy soil then commences, and within 3 <i>versts</i> (2 miles) the first branch of the River Aksu has to be crossed by a ford. The last, or seventh branch, is at a distance from the first of 3 <i>versts</i> (2 miles). Solid bridges are constructed for horsemen and foot travellers, but <i>arabas</i> cross by ford above the bridges.
Bárin (village) . . .	21	¾	...	...	When in flood, communication for <i>arabas</i> across the River Aksu ceases. After crossing the Aksu villages, fields and gardens again begin, and run on to the camping ground. The road is good throughout; there is no want of either water, fuel, or forage. From the village of Bárin the road runs through an inhabited locality; it is quite suitable for wheels. There is water everywhere. There is no grazing, but in the villages along the route, clover, barley, and fuel can be obtained.
Acha-Tág . . .	17	1¾	...	...	From the village of Acha-Tág to the town of Uch-Turfán the character of the road as before.
Uch-Turfán, Town of	15	7¼	...	...	The town of Uch-Turfán is not large. At the fort are situated about fifty houses, and there is a row of shops. Bazar days are on Mondays and Thursdays.
Básh-Agma (village) .	17	7¼	...	...	A cultivated oasis continues for another 15 <i>versts</i> (9 miles 7½ furlongs) from the fort along the road to the Bedel pass. The road up to the camping ground is good and quite fit for wheels. Plenty of water; also fuel. There is no grazing, but clover can be obtained in the villages <i>en route</i> and at the camping ground. Here there was a Kashgar post, and a few men still live here who keep horses and carts. In addition to these a few families are employed in agriculture. From here two roads run to Kashgar—the northern and the southern.
Ui-Tál point . . .	14	4¾	...	...	From the Básh-Agma post the road soon becomes a pack one and runs into hills over stony country, without water, and covered with occasional bushes of "ishkar." At 19 <i>versts</i> (12 miles 4¾ furlongs) the road by a long and circuitous descent comes out on the River Ui-Tál, and runs along its left bank to the point of Ui-Tál, where caravans camp for the night, as there is good water and fuel. From the Ui-Tál point within about 3 <i>versts</i> (2 miles) the road crosses to the right bank of the river by a ford and runs into a ravine with steep, rugged sides. Issuing from the ravine, after 9 <i>versts</i> (5 miles 7¾ furlongs), the road again comes out on the River Ui-Tál, and having crossed the river several times reaches the <i>rabát</i> or <i>saráf</i> of Agacha-Kul, built of stone. Here there are several rooms for travelling merchants and stables for horses. The walls of the <i>rabát</i> are loopholed. From Ui-Tál point high mountains accompany the road on either side—on the right the Kukrum, and on the left (south) the Chalmáta. Mountain artillery can be taken through. At the time of flood (in June) the River Ui-Tál overflows, and for several days communication ceases. There is little grazing, but there is fuel.
Agacha-Kul-Rabát . . .	19	1¾	...	...	At 2½ <i>versts</i> (1¾ miles) from Agacha-Kul-Rabát a steep and long ascent commences to the fort of Urta-Kurgán. The ascent takes 20 minutes, without counting halts to breathe one's horses. The ascent is soft; during the melting of the snows it is slippery and very difficult.

From the town of Aksu viâ the town of Uch-Turfân and the Bedel pass to the town of Kárákol—continued.

FROM POINT TO POINT.		TOTAL BETWEEN CHIEF PLACES.		REMARKS.
Miles.	Fur.	Miles.	Fur.	

Fort Urta-Kurgán is constructed on a small open space; it has the appearance of a quadrilateral, 50 paces square, with clay walls and two rows of loopholes. When Sunarguloff passed by here the garrison consisted of 100 men; the men complained of pains in the head, probably produced by the rarefied atmosphere.

About 400 *sajens* (933½ yards) from Urta-Kurgán to the north the ascent to the Bedel pass commences. This ascent is even steeper and longer than the first. The path winds up by zig-zags.

Sunarguloff ascended for 40 minutes, without counting constant halts for rest.

The guard on the Bedel ridge, who are accustomed to this work, dragged the baggage animals up with ropes. On the crest of the pass, on a small open space, stands a little *râbat*, which was occupied by caravan-drivers and jigits from Urta-Kurgán. Captain Sunarguloff puts down the height of the Bedel pass at 15,000 feet above the sea. The pass itself as well as the spots lying below it on both sides are always covered with ice. The most suitable time for crossing the Bedel pass is, according to the natives, after the first few days in July, when the locality on the northern side of the pass is free from the so-called yellow snow (*sari-kar*) which falls in the middle of March. The descent from the Bedel (in Russian territory) is much more convenient than the ascent. At 9 *versts* (5 miles 7¼ furlongs) on the right side are seen the channel and river Sari-Chát. By this name also the mountains are called which run on the right and left right up to the camping ground at the Karaul Tepe point. The whole road from Agacha-Kul-Rabát is generally difficult, even as a pack one; in places it is obstructed with cobblestones. There is no fuel, and it is necessary to provide oneself from Agacha-Kul. There is excellent grazing on the descent from the Bedel. Dung here for fuel. At the point of Karaul-Tepe is a spring in which there is a little water.

Karaul-Tepe point	.		15		7¼			From the point of Karaul Tepe the road at first runs along the defile of the River Bedel-Su, winding along cornices for 7 or 8 <i>versts</i> (4 miles 5 furlongs to 5 miles 2½ furlongs). At about 14 <i>versts</i> (9 miles 2¼ furlongs) from the camping ground the Bedel-Aghizi (mouth of the Bedel) ridge has to be crossed, the ascent is long but not steep. The descent, however, is much steeper. The road runs on descending to Istikh-Básh. At 25 <i>versts</i> (16 miles 4½ furlongs) a small pass has again to be crossed, after descending from which the road comes out on the mountain plateau of Kára-Giru.
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At 34 *versts* (22 miles 4¼ furlongs) from the last camping ground the road crosses the River Kára-Sai and immediately afterwards rises to the broad valley of Ak-Bel, which serves as a place of emigration for the Kirghiz of the Issik-Kul district. This elevated valley continues to another lower valley, that of the River Jau-Jurek. The waters of the Kára-Sai and the Jau-Jurek flow into the Narin. There is no fuel. In March there was only water in two places, in the Ishtek and Jau-Jurek. The grazing on the Ishtek is good.

Jau-Jurek point	.		33		1			From Jau-Jurek the road commences to ascend at 9 <i>versts</i> (5 miles 7¼ furlongs) and rises to the Ara-Bel plateau. Here on the left of the road are seen the Bárskun and Zanku passes, across which caravans only pass in summer.
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At 18 *versts* (11 miles 7½ furlongs) from the camping ground lies a small lake, beyond which the Káshka-Su pass begins. The ascent to it is insignificant, but fierce snow-storms rage here.

The descent is very difficult; masses of sharp stones obstruct the road; it is, in addition, very long, so that it takes two hours to accomplish.

The blocks of ice hanging on the mountain slopes often fall into the road.

On issuing on the River Káshka-Su, fir woods are first seen. At 40 *versts* (26 miles 4¼ furlongs) the defile of the River Zanku, into which the Kashka-Su falls, comes down on the left, and the road then runs along the Zanku defile, grown over with fir woods

From the town of Aksu viâ the town of Uch-Turfân and the Bedel pass to the town of Kârakol—concluded.

FROM POINT TO POINT.		TOTAL BETWEEN CHIEF PLACES.		REMARKS.	
Miles.	Fur.	Miles.	Fur.		
<p>It is very difficult, as it constantly crosses from one bank to the other, and, besides, is all blocked up with fallen trees. The road only becomes even at 56 <i>versts</i> (37 miles 1 furlong). At 63 <i>versts</i> (41½ miles) the first "aul" (encampment) of the Issik-Kul Kirghiz is met with. Here the road diverges from the Zanku to the right, and reaches the Russian village of Slivkino.</p>					
Slivkino (village)	49	5¾	...	...	There is no fuel along the route up to the River Kâshka-Su, nor water; forage (in March) only commenced from the descent to the Kâshka-Su, and then in no great quantity.
Kârakol, Town of	24	4¼	229	2¾	From here to Kârakol, 37 <i>versts</i> (24½ miles), there is a good wheel-road.

Route from Aksu to Kashgar viâ Uch-Turfân.—(Younghusband.)

This route is an alternative one to that by Maralbâshi. It is a shorter route, but is not, like the latter, practicable for carts, as it passes through a hilly country, where the ascents and descents are steep and difficult at times even for ponies. The total distance is 360 miles.

Between Aksu and Uch-Turfân the country is level, and cultivation extends almost continuously between the two places, the fields being watered from the Aksu river. This river is generally fordable, but is liable to floods, which make it quite impassable. These floods, too, are a source of danger to traffic, as they come down with great suddenness, and carts, horses, and foot passengers are often swept away by them.

As far as Uch-Turfân the road is practicable for carts, but after leaving that town the road ascends the valley of the Aksu river, crossing some rough country which is only practicable for baggage-animals. Thirty miles to the west of Uch-Turfân the road leaves the valley of the Aksu river, and after crossing the Belowti (or Karakara) pass enters the Syrt country, which consists of large plains surrounded on all sides by hills. These plains are not entirely bare, for woods of considerable extent are often seen, and the Kirghiz, who inhabit this part, have in places cultivated the low-lying ground.

At 50 miles from Kashgar the road leaves the hilly country and descends again into the plain country, passing through the rich district of Artush to Kashgar.

Supplies can be obtained in plenty at Aksu and Uch-Turfân, but between that place and Kalti Ailak there are no grain supplies. Any quantity of meat, however, could be supplied, as the Kirghiz who inhabit that part of the country keep immense flocks of sheep and herds of cattle.

Water can always be readily obtained.

*From the town of Kuldja via the Chapchal pass to the Muzárt picket
(the quarters of the Tian-shan Detachment).*

(Explored by Colonel Kostenko in 1872—see page 405.)

	FROM POINT TO POINT.		TOTAL BETWEEN CHIEF PLACES.		REMARKS.
	Miles.	Fur.	Miles.	Fur.	
Kuldja, Town of . . .	...	...	...	...	The whole of this road, with the exception of a few places in the Chapchal defile, is fit for wheeled vehicles. The preparation of the defile for wheel traffic is also possible without great expense. There is water, fuel, and forage everywhere.
Passage of the River Ili.	2	0			The passage of the River Ili near Kuldja is carried out by three moderate-sized ferry-boats. The width of the river here reaches 80 <i>sajens</i> (186½ yards); the right bank is very steep. In consequence of the swiftness of the current, especially with a wind, the passage is made very slowly.
1st "Sumun-Sibo" . . .	3	2½			
Kainak (village) . . .	5	2½			
Kán (") . . .	13	2½			
Entrance to the Chapchal defile.	5	2½			From the point of passage to the entrance to the defile is smooth and suitable, being occasionally crossed by ravines.
Summit of the pass . . .	17	7½			From the entrance to the defile for about 15 <i>versts</i> (about 10 miles) the route rises gently, and the road is excellent; then after that ascents and descents commence, in addition to which boulders and large pebbles form obstacles of no little importance for wheel traffic. As it approaches the summit of the pass the defile becomes covered with vegetation (fir), which ceases at the summit of the pass itself; so, consequently, its height may be fixed at about 9,000 feet. The descent from the pass is more convenient than the ascent; the ground falls gently, and there are no large stones on the road.
Opposite foot of the pass.	15	7½			
Passage of the River Tekes by ford.	44	3½			From the southern foot of the pass the road turns west, and at first runs along the Atin-Tau hollow, and then along the valley of the Tekes river. The hollow and valley abound with excellent pasturing grounds. Water in abundance.
Muzárt picket . . .	26	4½	133	7½	The chief channel of the Tekes at the point of passage is 100 <i>sajens</i> (233½ yards) in width. The banks are low and firm; the bottom is also firm and covered with fine shingle. The depth of water is 3 feet; the current is swift.

From the Muzárt picket viâ the Muzárt defile to the town of Aksu.

(This route, as far as the Muzár Básh picket, was travelled by Colonel Kostenko in 1872; beyond it is from information obtained by enquiries.)

	FROM POINT TO POINT.		TOTAL BETWEEN CHIEF PLACES.		REMARKS.
	Miles.	Fur.	Miles.	Fur.	
Muzárt picket			
(Quarters of the Tian-shan detachment).					
Entrance to the Muzárt defile.	3	2½	This route is described in a very detailed manner in the description of the Muzárt defile. (See page 406.) From the Tamga-Tásh picket the road is perfectly practicable. (See page 512.)
Summit of the pass . . .	33	1	...	...
Mazár-Básh picket . . .	7	7¾	...	...
Tamga-Tásh . . .	13	2	...	...
Kailek . . .	7	7¾			
Tuprak . . .	9	7½			
Muzárt Kurgán . . .	21	1¾			
Kizil-Bulák . . .	9	2½			
Auat . . .	7	7¾			
Jám . . .	23	1½			
Kend-Shlenchi . . .	13	2			
Tásh-Liangan Saráf . . .	11	7½			
Ak-Su, Town of . . .	14	4¾			
			177	0	
From the first Muzár-Básh picket to Ak-Su.	132	4½	

RIVER SYSTEM WEST OF AKSU.

The system of the Tarim-gol fills the vast country known under the various names of Chinese or Eastern Turkistán, Kashgaria, and Yeddishar. It falls into Lake Lob-nor. Besides the lower course of the Tarim, which has been explored by M. Prejvalski, we only know the sources of a few of its affluents. These take their rise in the Tian-shan, in the neighbourhood of the province of Semirechia. They have been explored by M. Kaulbars. Amongst them are—

Tarim-gol system.

Ak-Sai.

The stream known under the name of the Ak-Sai issues from a small glacier in the At-Bash-Tau range and enters a wide valley, which is separated from lake Chadir-Kul by a watershed, which is not perceptible to the eye. The Ak-Sai then turns to the east, and flows through a small channel, which gradually opens out into several branches. These again unite into one, just where the Mudurun joins them. The further course eastward of the Ak-Sai is called respectively Kizil-Kunges, Uch-Turfán, and by other names. This course has not been explored. From the Mudurun to the town of Uch-Turfán the same river has about ten local names. Below Uch-Turfán it receives, through its

left bank, the waters of streams which make their way through the Janart defile.

The Ak-Sai valley is one of the most extensive of the Tian-shan range. Opposite the Terekti pass its width is 30 miles from range to range, and at its eastern end it is 10 miles wide. Its length is about 60 miles. Its character is hilly, especially towards the south, where it is shut in by the Kashgar-Tau. The height of this valley is very considerable. Near lake Chadir-Kul it exceeds 11,000 feet; to the east of this it is somewhat less. Its undulations are almost everywhere covered with a salt deposit. The grass in it is short and scanty, and only in certain low-lying and damp places, such as the banks of the Ak-Sai, it is of good quality. Towards the east end of the valley along the banks of the river, bushes, some *vershoks*¹ high, are met with. There are a large number of ponds in the valley of the Ak-Sai. These contain brackish water. The valley is intersected with roads in every direction. In places, too, it is cut up by steep and stony lateral ravines, which render communication difficult.

The climate of the Ak-Sai valley is severe. Snow-storms frequently occur here in August. At present its sole occupants are mountain bears, foxes, wolves, *arkharas* (mountain sheep), and *ichki* (mountain goats). On its lakes there are geese, ducks, and other water-fowl; also various kinds of birds of prey, amongst which are specially noticeable the large yellow kite with bluish spots.

The affluents of the Ak-Sai on its left bank are the western and eastern Kil-Tebek (roads to Kara-Koyun), the Bogushti (road to At-Bash), Urme (road to At-Bash), Tuz-Ashu (Kindi pass). But the largest affluent is the Mudurun, which rises near the Kubergendi pass in the valley of Kogelyachap-Su. This river passes through a wide valley in a south-westerly direction, and 10 miles above its mouth turns sharply to the south-west.

The valley of the Mudurun is 40 miles long and 5 wide (opposite the Kubergendi pass it is 7 miles wide). In the neighbourhood of the Kubergendi pass it is 12,000 feet above the level of the sea. Towards the west it gradually sinks. Its eastern extremity is perfectly flat and in places marshy, and it has much in common with the Ak-Shiriak-Sirt. Towards the west it becomes undulating and produces excellent grass. In this part here and there ponds are met with, and in various directions the rocky steep ravines marking the sources of the affluents of the Mudurun intersect it. At its western end it joins the valley of the Ak-Sai in the neighbourhood of the lower portions of the At-Bash-Tau range and close to the pass of Kindi.

Of the affluents of the Mudurun on its right bank, the following are noticeable: (1) Kara-Tash, along which there is a pack-road to the valley of the At-Bash; (2) Balik-Su, road to the same place. The Kohart enters the Mudurun through its left bank, and along its gorge a road leads over

¹ A *vershok* = 1 $\frac{1}{4}$ inches English.

the pass of the same name to Kok-Shal and to the valley of the Uch-Turfán.

The entire length of the valley of the Mudurun is about 50 miles ; that of the Ak-Sai as far as the mouth of the Mudurun is 60 miles, and as far as the town of Uch-Turfán approximately 180 to 200 miles.

Finally, below the mouth of the Mudurun there falls into the Ak-Sai, through its left bank, the southern Kohart, along which there is a road over the Kok-Sha range to Mudurun.

The River Janart comprises three streams—the Sariasi, Ir-Tash, and Ishtik. The first of these rises in the angle formed by the meeting of the Sariasi and Terskei ranges. Vast glaciers surround its sources, feeding its stream with their waters. The Sariasi flows in a south-westerly direction through the wide Sirt. The valley of the river gradually narrows towards the south-west, and at last the Sariasi enters a difficult gorge, 7 miles long. It there inclines to the south-west and further on flows through a straight valley.

From the mouth of the Kuilu it has not been explored ; but from what the Kirgiz say, and judging by the character of its locality, its lower course bends to the south-east, and then, after having been joined by Ir-Tash and the Ishtik, it turns towards the Janart gorge.

The affluents of the Sariasi on its right bank are (1) the Turgen-Aksu, and (2) the northern Kuilu. The Sariasi is a very copious stream, but its current is not very rapid. The depth of the ford at the mouth of the Kuilu reaches to a horse's chest in July.

The Ir-Tash rises in glaciers on the southern slope of the Terskei-Tau range, $3\frac{1}{2}$ miles to the east of the Petrof glacier. Here it is called the Kizil-Su. After this it flows through the Ak-Shiriak-Sirt, and soon enters a gorge, at the head of which there are two lakes and a glacier. From here it is called the Ir-Tash, and flows for 13 miles through a gorge in a north-easterly direction. It then turns sharply to the south-east for 13 miles, again bends to the east, and falls into the Sariasi. Below the mouth of the western Kuilu this gorge has not been explored. In this stretch of country the Ir-Tash receives many affluents from both sides, of which the greater number come out of glaciers.

Amongst these the following are noticeable: Kuilu on the left bank (road to the Kuilu pass), which emerges from glaciers on the range and pass of the same name ; and northern Ishigart, which falls into the Ir-Tash below the mouth of the Kuilu, just opposite a sharp bend made by the river to the east (road over the Ishigart pass to the valley of the Sari-Garm).

The third affluent of the Janart, the Ishtik, takes its rise in the unexplored mountain angle formed by the Kok-Shal and Borkoldai ranges. It flows in a north-easterly direction through a sloping ravine almost as far as the roads

to the Bedal pass. Further on it enters one of the most confined and rocky defiles, wherein the pathway passes incessantly into the water. The eastern end of this defile particularly strikes one by its sombreness and size. The exit from it is called the Ishtik gates. On

Ishtik gates.

issuing from these gates the river flows through a wide valley, in which it joins with the Sariasi.

The affluents of the Ishtik on its right bank are—(1) the Bedal, along the upper valley of which a road goes to

Affluents of the Ishtik, right bank.

Uch-Turfán over the pass of that name; (2)

Kukurtuk (road to Uch-Turfán); (3) Kaiche, along the upper course of which a road goes over the impracticable pass of the same name to Uch-Turfán. The affluent on the left bank,

Left bank, Sari-Garm.

which pierces through narrow clefts in the sandstone cliffs of the Ishtik-Tau range, is the Sari-Garm. The cleft in the cliffs through which it passes lies 8 miles below the Ishtik-Bel pass. It has a very uncertain direction, and is so narrow that in places the rocks overhang and form a sort of tunnel; and when pieces of them fall, they make a noise like thunder.

Chagir-Su.

The other stream, the Chagir-Su, rises in the southern slopes of the Ak-Shiriak. After collecting the various streams which flow through the deep ravines of the Ak-Shiriak range, it winds along the northern slope of the Ishtik chain, and then, after skirting the eastern extremity of the same chain, falls into the Ishtik.

Kuyan-Su.

The latter receives through its left bank the Kuyan-Su, which rises in a large glacier on the southern slope of Ak-Shiriak close to the Ishigart pass. Along the ravine of the Kuyan-Su a road leads to this pass.

Between the Ak-Shiriak and Ishtik ranges stretches the wide valley of the Sari-Garm. The western end of this is perfectly level, and in places swampy. Here lies the Ukurgen-

Ukurgen-Kul lake.

Kul lake, at a height of 11,434 feet. Further on the valley is cut up by the Ak-Shiriak ravines; and beyond these its surface again becomes level and swampy.

The waters of the Ishtik, Ir-Tash, and Sariasi on uniting form a very copious river, which pierces the gigantic Janart gorge. Below this the united river receives the name of the Tam. It falls into the Uch-Turfán below the town of the same name. The length of the Sariasi from its sources to the Janart gorge is about 65 miles; that

Length of the Sariasi, Ir-Tash, and Ishtik.

of the Ir-Tash and Ishtik from their sources to their mouths are 4 and 50 miles respectively.

These figures are approximate.

Route No. 9—Aksu to Kashgar—*continued from page 512.*

AKSU (Chinese city).

13th July.—The road, 20 to 35 feet wide, lined by trees, continues down the well-cultivated and irrigated valley, crossing several streams and canals. The valley is bordered by a low cliff of clay, 1 mile to the south, and low barren hills, 5 to 6 miles to the northwest. At $3\frac{1}{2}$ miles the river, flowing in a broad shallow bed, $\frac{3}{4}$ mile wide, is crossed. Several streams, 100 and 200 feet wide, with rapid

currents, are crossed before the main stream of the Janart, 300 yards wide, is reached; current rapid. It is crossed by ferry-boat (2 only). Horses swim over; cultivation extends down it as far as seen; beyond the river the same character of well-watered and cultivated country is traversed. Road at times sandy. Country well wooded, grazing excellent. The cultivation is slovenly, weeds growing amidst the barley and wheat. At 19 miles the meadow stream, 150 to 200 feet wide, is crossed by a rough combination of earthen piers and waterways. Country swampy beyond it. Good grazing. At 20 miles the large village of I-crow, with over 500 Turk families, is passed. At times the road narrows to 10 feet, and winds considerably; bridges contract it frequently to a width of 10 feet. Soil, generally clay. The wheat is being harvested.

2ND STAGE.

SOI-ARIK.—8¼ hours.—70 *li*.—Bar. 26·25".—Temp. 62°. (3,500'.)

13th July.—Village of 130 Turk families. Horses alone are used in carts here; mules are rare; good horses and ponies are obtained from the Tian-shan hills to the north. Two and a half miles from the village the cultivation is left, and a barren waste entered, bordering the northern hills. At 10 miles the soil is saline, and the plain covered with mounds. Tamarisk grows sparsely.

3RD STAGE.

SHUR KURDUCK.—6¼ hours.—53 *li*.—Bar. 26·25".—Temp. 90°. (3,500'.)

The brackish water of the wells here is cool and pleasant to drink; not so the muddy fluid of the rivers and canals.

14th July.—The road continues to traverse the waste, bordering the northern hills; roots of the shrubs crowning the sand-hills furnish fuel *en route*.

4TH STAGE.

CHILIAN.—7 hours.—56 *li*.—Bar. 26·25".—Temp. 78°. (3,700'.)

Village of 30 poor houses, with a little cultivation about it. Water indifferent, from a pond.

15th July.—The Maralbáshi district here begins. The cart-track continues over the barren, salt soil, covered with only a sparse growth of tamarisk. Soil, where clayey, gets very slippery after light rain.

JAIDI.—A few huts.

A little *chi* grass grows about the station. Ground swampy, watered by a stream from the foot of the hills, 20 to 30 miles to the north-west; they are barren and snowless.

At 16 miles the track becomes heavy amidst sand-hills; at 18 miles tograk trees begin to grow, and later on thicken into a wood. The hills are still 20 to 30 miles distant to the north-west.

5TH STAGE.

YAKA KUDUK.— $5\frac{3}{4}$ hours.—40 *li*.—Bar. 26'26".—Temp. 78°.
(3,500')

A few huts, amidst tamarisk and tograk trees. Water from a pond.

16th July.—The heavy sandy track continues through a thick tograk forest. At times ponds occur, and the air is damp and cold. At 11 miles a jungle, of tamarisk, low shrubs, and trees, is traversed. *Chi* grass grows here and there all along the route. Horse-flies infest the forest during the day and render night-marching necessary.

CHĀDIR.— $4\frac{1}{2}$ hours.—34 *li*.

Few huts surrounded by a few cultivated fields. *Chi* grass plentiful. At 4 miles the bush jungle ceases, and the track is over a sandy soil between low sand-hills, covered with scrub.

Light shower.

6TH STAGE.

TUMSHUK.— $5\frac{3}{4}$ hours.—46 *li*.—Bar. 26'15". (3,600')

Village of 40 Turk families. Water indifferent, from a pond. This stretch of country is almost unwatered by streams.

17th July.—The track, generally narrow, winds through the forest and amidst sand-hills, to gain a passage through the low hills here stretching across the plain; nearing the gap in them *chi* grass becomes plentiful and the forest ceases. At 11 miles is a hut lying under the terminal of the hill passed, whose summit is crowned by a shrine. The hills are of indurated clay, with layers of flint, at steep angles; thence the track winds over a plain, covered with *chi* grass, out of which rise several low detached hills. Several canals or streams

water it. Soil, a clay, easily pulverised. Passing several ponds, through tamarisk growth, Chahār-bāgh is reached. The canals and streams crossed are all that remain of the Kashgar river, and together are insignificant in volume; at certain seasons they are said to flood the country.

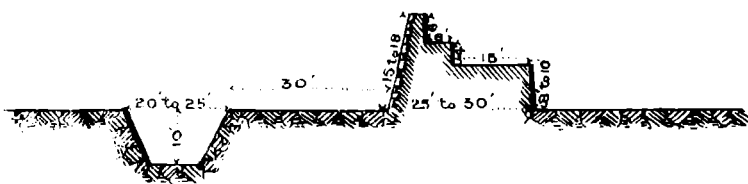
Hot and cloudless day.

7TH STAGE.

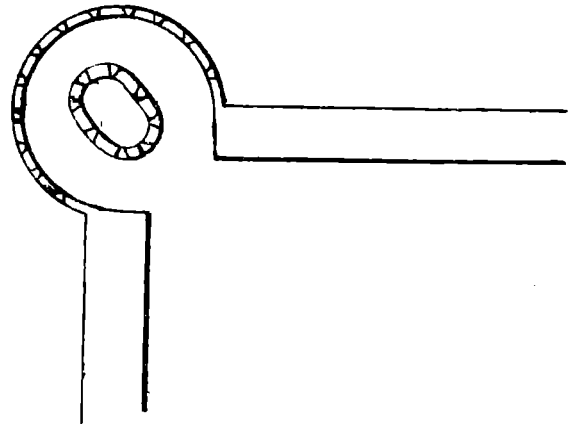
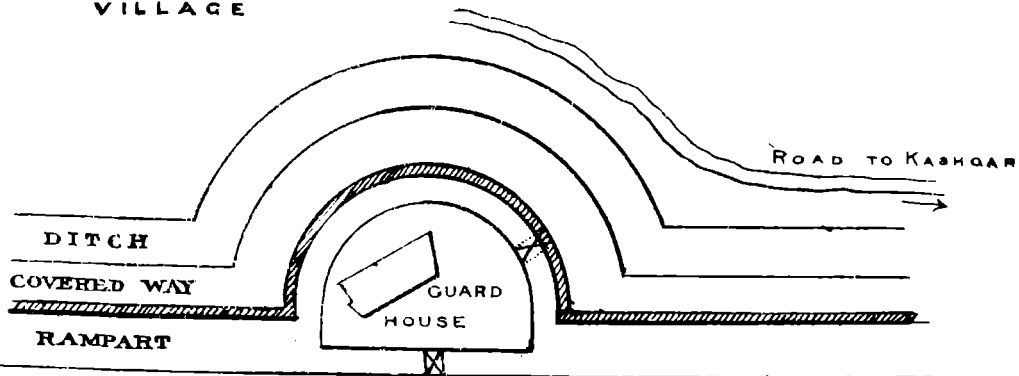
CHAHAR-BAGH.— $7\frac{1}{2}$ hours.—56 *li*.—Bar. 26'15".—Temp. 82°.
(3,600')

18th July.—The snowy range now no longer perceptibly influences the temperature, and the days and nights are uniformly hot. The low hills are 10 to 15 miles to the north. Detached hills occur to the southward; they are all barren and steep. The hard track, over clay, continues to traverse the flat, covered with *chi* grass. It is often narrow (10 feet) and raised. Canals traverse the plain. At 2 miles a tamarisk jungle is entered; canals are cut through it (sunk 3 to 6 feet). The track is an exceedingly dusty one, over pulverised clay. A little *chi* grazing occurs here and there. It would seem possible to reclaim this jungle, as it can be plentifully watered by canals. At 11 miles, nearing the Kashgar river, here a shallow sluggish stream, 50 feet broad, banks 3 to 6 feet high above water-level, grazing becomes plentiful and soon gives place to cultivation.

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VILLAGE



8TH STAGE.

MARAL-BASHI.—5½ hours.—47 *li*.—Bar. 25·96".—Temp. 86° (3,800'.)

Water from canals exceedingly muddy. The bazár is the main road lined by shops, some kept by Chentus and some by Chinese, the latter of the better type and Chinese in character. At the end of the street lies the fort of 400 yards side, walls 15 to 18 feet high, reveted with brick; ditch, dry; easy slopes; 4 gateways, each double, and in the centre of each side, 100 feet deep; their projections, 40 yards by 60 yards, give flank defence. Ramps at angles and gateways. Circular projections at angles, with diameter of about 30 feet, and central towers, giving a double line of musketry fire. (*See Sketch No. 70.*) There are a few government buildings inside the walls. No shops. The Kashgar river flows close in under the north face; uneven ground all round. It seems possible to flood the ditches from the river. The village gives cover up to the east face.

Iron ore is said to be found in the vicinity and to be roughly smelted. There are over 2,000 Turk families in the town; 350 Hu-nan soldiers (250 really), some mounted, garrison the fort.

Indian merchants come here from Yarkand, stay a month or so, and return there. They bring cottons, tea, pepper, ginger, and sugar. There is a Hsien Mandarin here and a Military Mandarin. A barber from Lahore is here doing well, and is contented; also a merchant from Delhi; both came in the Badaulat's time. The Chinese are easy masters and do not trouble the people. They do not agree with the Andijánis alone, because they will not give them their women in marriage or rather concubinage. Coming from Khokan they are strict Musulmans. The Chentus give their women in marriage to most creeds who will eat with them. Hindus do not, and consequently do not intermarry with them. Musulmans from India like this country, because of the facilities of taking many wives; poor men can afford two; in India, only one.

Hájis take the route by Ladak, and in the winter that *viâ* Samar-kand, Mazár Shárif, and Kabul to Bombay.

Present rule preferred to that of the Badaulat. It is a slack one.

The oasis is comparatively a poor one, the soil being wanting in fertility.

19th July.—The road, generally 30 feet broad, traverses the well-watered oasis, and at 4½ miles, crossing the Kashgar river, a sluggish stream flowing in a bed, sunk 6 to 8 feet, becomes a track over an uncultivated country. At 10 miles a wood, infested by horse-flies, is entered; high *chi* grass is plentiful. Soil, a clay, easily pulverised.

9TH STAGE.

SURGA ROBAT.—54 *li*.—Bar. 25·9".—Temp. 85°. (3,870'.)

20th July.—A large inn and a few log huts; water, muddy, from shallow wells in the bed of a dry water-channel. The track continues through the forest. Road dusty, soil soft and spongy. Hills, 20 miles to north. The route from Aksu is over the level to Kashgar, Yarkand, Khotan, &c.

KARA-KILCHIN-ROBÁT.—4¾ hours.—40 *li*.

Water from a surface well in a depression. The road continues through forest for 3 miles, and then through a shrub jungle; at times it is very heavy and deep in dust. Large horse-flies still numerous and very troublesome.

10TH STAGE.

URDALICK.—7 hours.—56 *li*.—Bar. 25·875".—Temp. 83°. (3,850'.)

Water muddy, from a small canal. Thunder-storm.

A few wells would add much to the comfort and health of the few Turk families occupying these forests or desert stations. Passing through this track of country one looks back to the passage of the Gobi as preferable to it; a hum of horse-flies is heard from dawn till dark; halts have to be made now and then to beat them off and prevent the horses being severely wounded by clusters of them. Near the station *chi* grass grows; ponds are plentiful and the soil seems culturable.

20th & 21st July.—The road passes over the plain through *chi* grass, or a growth of tamarisk, and at times through a tograk tree jungle.

WUSU BLOCK.—3½ hours.—30 *li*.

Pond and inn. Road, good to this, now becomes ruddy and sandy. At 15 miles is an inhabited enclosure on the banks of a canal, 35 to 40 feet wide, and ¼ of a mile from the station the Kashgar river, 25 to 45 yards wide, is crossed by a bridge in three spans, 45 paces long, piers of brick. Water and fuel are plentiful along the route, and *chi* grass grows near the ponds.

11TH STAGE.

KUPRU ROBAT.—7 hours.—56 *li*.—Bar. 25·85".—Temp. 85°. (3,870'.)

Inn amidst a growth of tamarisk. Water from a canal, 30 to 40 feet wide, very muddy. The road, ruddy as above and sandy, continues over the plain amidst hillocks and through tamarisk bush. Cultivation recommences at Yang-i-ábád; thence the road is easy, 30 to 40 feet wide, well shaded by trees, and runs through the well-watered oasis. The wheat is being harvested. Indian-corn grows luxuriantly. The oasis is dotted over with homesteads.

12TH STAGE.

FAIZABAD.—12 hours.—96 *li*.—Bar. 25·8".—Temp. 77°. (3,920'.)

The weather is unsettled in the hills.

Village of 450 scattered houses (few in the village itself), each accommodating two or three families,

The local cotton cloth, or *mata*, costs here 3, 5, and 7 tengas the length of 18 feet (narrow width). Cotton costs about 2 tengas the cattie ($1\frac{1}{2}$ lb); 20 to 25 tengas = 1 tael.

Garrison, 120 cavalry (*Tangani*).

22nd July.—The road, as above, continues through the well-watered, wooded, and rich oasis to Shubdár. In places a thick crust of efflorescence covers the soil where water has been stagnant. Grazing good; thence cultivation becomes less general; the road narrows to 8 and 10 feet at all bridges, which are rough constructions of trees laid horizontally; where necessary, rough piers of piles are constructed. The road, crossing a rapid stream at 16 miles, keeps about a mile or so to the south of the Kashgar river. Cultivation improves as the Chinese city is approached; to the north of it, before reaching it, is an extensive swamp.

KASHGAR (*Chinese city*) OR YANGI-SHAHAR.— $14\frac{1}{2}$ hours.— 123 li.—Bar. 25.8° .—Temp. 85° . (4,000').

23rd July.—The Yangi-Shahar Kashgar is the chief fortress of western Sin-kiang. Here reside the General commanding the military district which extends to Khotan, and within it are the artillery depôt, powder magazines, armourers' shop, &c., &c., and both military and civil *yamens*. To the north and east there is cover up to the walls; to the south and west the ground is clear.

The town has a side of 700 to 800 yards; that to the east is slightly curved. The east and north sides have flanking projections of about 50 yards by 40 yards, with minor projections at intervals of about 100 yards. Walls are 25 feet high, with a musketry parapet, 7 feet high, loopholed, and 2 feet 6 inches thick, crenelated. Small towers in the projections and angles give additional flanking defence; covered way of 30 to 40 feet wide, fronted by a musketry parapet and ditch, about 40 feet wide and 15 feet deep, with a partial cunette, which could doubtless be flooded; along the escarp is a musketry parapet. There are gateways to the north, east, and south. There is no central flanking projection on the west side; rampart, about 50 feet thick in all. Gateways at right angles; outer 50 feet, inner 100 feet deep. Within the ramparts the city is divided off into defensible quarters by high and crenelated walls. Ramps at the gates give access to the ramparts, to which there is a low inner mud wall on the town side. Many bricks have been collected, as if additional barracks, &c., were to be built inside the town.

In the town are one Chi Tai Mandarin and one Chew. Its population consists of about 200 Tungáni, 300 Chinese, and a few Turk families. It is garrisoned by 250 cavalry (Hu-nan troops); 800 infantry (Hu-nan braves); 125 cavalry (Turk). There are three large camps close to the city, on its north side. A broad and excellent 40-foot highway leads to the Chinese city. It is bordered by high mud walls, gardens and villages, &c. To the east the country is swampy to the river. Much rice is grown. Crossing the rapid river, a full meadow stream, by wooden bridge, 100' long, in four spans, passing over uneven ground, and between walls and ruined buildings, &c., the Turk city is reached. High wind.

13TH STAGE.

KASHGAR (*Turk city*).—1½ hours.—15 *li*.—Bar. 25'56."—
Temp. 73°. (4,150'.)

From Ak-su, 932 *li*, or 310½ miles.

In the city reside one Taotai, the Amban of the district, and one Chih sien. It is garrisoned by 1,000 (700) infantry. The Russian Consul lives in the north suburb, in mud-hut quarters, improved and adapted to his needs. His escort consists of 40 to 50 Cossacks, with 2 officers. He is assisted by a Secretary, and has his wife with him. The detachment is not in favour with the people on account of their intrigues with the women, the Turks not willingly (some said) giving them their daughters as temporary wives. (*See page 470.*)

One missionary (the Reverend P. I. P. Hendricks, Roman Catholic, a Dutchman) works in the city. He considers that the Turks or Chentus are a bundle of loosely-tied sticks; they have no patriotism, except a local one; no bond, except religion, and that a debased one; they live a half man, half animal life; a mixture of races, they can never stand alone, and although well pleased with Chinese rule they incline rather towards Russian dominion, because of their family connections with Russian Turkistán, Osh, Narin, &c. The only bond of union in Central Asia is the family tie, and this binds Chinese to Russian Turkistán. The

General remarks.

same tie is the only bond of union in China. He has travelled in Central Asia, and considers that the Russians would prove to be no better masters than the Chinese. They do nothing for their Central Asian possessions. Life is being starved out of the people under the rule of young and inexperienced Governors. They carry everything there before them in an unjustifiable manner by brute force; they have few feelings of humanity, no sense of justice, and do not treat the Turks as reasonable beings. Whilst so speaking he stamped up and down the room, suiting his action to his words. The character of the people of Russian Central Asia is such that there can be no independent future before them; they are as gone-by as the Kashgarians and Chinese; the deterioration of the latter commenced when Kubálai Khan, grandson of Chengis, ascended the throne. (*See page 628.*) The Manchu dominion is but a continuation of the same conquest by another road. There is a feeling of hostility between the Chinese and the Russian subjects occupying the town, chiefly Andijánis; the latter will not give their daughters in marriage to the Chinese. (The Turks, under their own rule, do so freely, although they are Muslims, and the Chinese heathens.) There are 300 Andijánis in Kashgar. The Hindustánis are well treated and looked upon as friends. Several of late have come over from Russian Turkistán. These traders take no Indian goods into Russian Central Asia because of the heavy dues levied by the Russians. They trade locally only, in local produce, and as usurers. (*See page 550.*)

In the Kashgar district (including Maralbáshi) there are said to be 160,000 families (800,000 to 1,000,000 of souls).

The city is a collection of mud huts and enclosures, with trees

plentifully scattered here and there. It contains no building of architectural beauty, and the only one of interest is the Mosque, raised by the Kashgarians to the memory of the Badaulat. The saráis of town and suburbs are exceedingly poor, and are so in all the Turk towns. Its wall has a side of 1,200 to 1,400 yards, of mud; height about 25 feet, thickness at top about 20 feet. Small projections at close intervals give flanking fire to the narrow and shallow ditch. The gate projections, one to each face, have sides of about 40 yards by 50 yards; walls, huts, ditches, &c.; give cover close up to the walls. Within the city a narrow road is kept clear under the steep inner slope of the wall. It has about 40,000 inhabitants. Low hills approach to within 5 to 10 miles of it to north and west.

Official despatches cannot reach Kashgar from Peking under two months at the earliest.

The Turki language is as mixed as the blood of the Turks here, containing words of Arabic, Persian, Turki, and Mongol origin. (*See page 430.*)

Fruit in July is plentiful; the figs are of excellent quality, and equal to those grown in Europe; the peaches, which are small, are refreshing but tasteless. Grapes ripen in August. Apples are only fit to cook; 100 taels weight of opium costs 21 taels (silver). The tael is of 500 cash. Flour costs 5 cash the cattie (1½ lb). Ice is plentiful and cheap. Iron is imported from Russia; some is said to come from Yarkand, where iron is said to be smelted: this information was not substantiated by enquiries made here.

The most direct road to Ili is *viá* the Terek pass, which is a fair pack-track; the easiest road is that *viá* Chakmak and Karakol. (*See page 423.*) Carts can reach Chakmak, and but for low passes, over which it would not be very difficult to construct a cart-road,

could reach the Russian post-road at Narin. **Communications, &c.** The Osh road (*see page 423*) is difficult to traverse in the spring when the snow is melting. In the autumn the streams met with are difficult to cross. September and November are good months in which to use it. The route generally taken to Kabul is the direct one *viá* Tásh Kurgan (*see details*). The worst part of it is on this side of Tásh Kurgan; at present water renders it very difficult, or closes it altogether. (*See page 555.*)

The horses of the district are of a good stamp, up to 15 hands; they are bred in Russian Turkistán. Narin is a good horse-mart. In the Kashgarian hills horses might be bred, but the Turks are inert and their masters equally so. They water their fields, reap their crops, and attempt little more. The people of the Khotan district are more enterprising, exporting silk and wool, and manufacturing carpets. Many of the resources of the district lie dormant. Under a fostering rule they would rapidly develop.

The Kirghiz horse is the most common and best distributed throughout Russian Turkistán. In height it does not exceed 14 hands; 15 hands is uncommon. It is Roman-nosed, with a large head; broad and deep chest; it carries heavy loads and is enduring;

its walk is quick, and its shuffle rapid; pace true. They rarely stumble; their muscle is very highly developed. Legs clean and rarely spavined. They are enduring and trained to long journeys on little food and water; 45 miles a day, for 8 days, carrying over 250 lbs., is nothing unusual, and even for 20 days; cost on an average £6 to £7; amblers fetch £12 to £50.

At Kashgar an average horse, 13-14 hands, can be bought for 60 to 70 rupees.

The Turkistán camel is both one-and two-humped; the latter is the more common; the one-humped variety endures the frost with difficulty. The hair is cast in the spring; they are shorn in June. A camel costs from £6 to £10. (*See page 238.*)

The Russian Turkistan cattle are useful for pack carriage, wheeled carriage, and riding purposes. They will drag about 1,000lb for 15 miles in the plains, and 4 miles in the hills; will carry 400lbs 20 miles in 24 hours, and can be ridden 25 miles in the same time.

The condition of the Kashgarians is very comfortable and their degree of civilisation good, considering their isolated condition. (*See page 470.*) Sir D. Forsyth considered the population scanty for the land available for cultivation and capable of irrigation. (*See pages 372, 471.*) Time and peace he considered only necessary for the production of a large demand for necessaries and luxuries. The want of a proper currency and the necessity of barter transactions were trade drawbacks.

Notwithstanding the difficulties of the road, he considered that if fair profits only satisfied the traders, that the English piece-goods could undersell those of Russian manufacture of equal quality. All goods should be of the best quality; inferior goods at lower prices do not find favour. (*See pages 542 et seq.*)

The Hakim of the Kashgar Circle sent in to Yákúb Beg's treasury, 1876, from the town of Kashgar, and from the villages of the same circle, a heradj tax of 900,000 chariks of different grains, chiefly maize and wheat. Of this quantity the amounts that came from the villages lying along the main road to Maral-Báshi were as follows:—

From Shaptali, with its 600 families, 2,000 chariks.

From the village of Faizábád, with from 400 to 500 families, 60,000 chariks.¹ This village, together with that of Khan Arwik, is the chief centre of the *mata* industry.

From the village of Yangibad, with from 70 to 100 families, 400 chariks.

From certain villages, in which horticulture is more highly developed, there were collected—from Bish-Karam, 100,000 tengas (22 to 25 tengas = 1 tael = 1½ oz. silver); from Abat, 32,000; from Toguzak, 64,000; from Kurgan 16,000; from Kizil-Bui, the tanap and ziaket taxes together, 90,000; from Nanchuk, 25,000; and from Daulat-Bagh, 18,000 tengas.

¹ One charik = 24lb wheat, or 26lb of maize or 25lb of barley. (*See pages 433, 5:7.*)

From the sections that were independent of the Kashgar Circle, the collections were as follows:—
Sections independent of the Kashgar Circle.

From Khan-Arwik the heradj tax amounts to 220,000 chariks, and the ziaket and tanap taxes to 118,000 tengas. The taxes from Khan-Arwik were fixed by Yákúb Beg in favour of his eldest son, Bek Kuli Beg, and they therefore did not go to the State.

From Tazgun the heradj tax amounted to 90,000 chariks, and the tanap and ziaket to 88,000 tengas.

This section consists of from 13 to 15 small settlements, which bear the common designation of Tazgun. The inhabitants are principally husbandmen, and their chief crop is maize. The population is about 10,000 families.¹

Artush yields a heradj tax of 83,000 chariks. The principal article of industry of its inhabitants is *mata* of an inferior quality. Husbandry occupies a secondary place. The population of Artush is above 10,000 families.

From Tash-Malwik they collect a heradj tax of 64,000 chariks and a ziaket tax of 40,000 tengas.

To this section belongs the mountain region near Lake Sari-Kol.

Its inhabitants are for the most part Kirghiz, who pay, by means of the cattle which they possess, the ziaket tax to the amount above named. Their occupations are husbandry, to a limited extent, and digging for coal.

In Argu, three years ago (1873), the heradj tax amounted to 48,000 chariks.

Its inhabitants are workers in *mata* of an inferior kind. They also prepare soap, cultivate gardens, and carry on a trade with the Kirghiz. The population, according to Chinese reckoning, consisted of 300 families.

Upal produced a heradj tax of 80,000 chariks. Its population is agricultural.

In the Maral-Báshi section, the heradj tax amounted to 40,000 chariks. Its population is reckoned at 3,000 families. The people of this section are Dulans (? Turen, *i.e.*, aborigines before Chinese), a Mongol race, which migrated to Kashgaria about 150 years ago, during the Zungar rule. The race took up its abode along the course of the Rivers Kashgar-Daria, Yarkand-Daria, Khotan-Daria, and in the neighbourhood of Lake Lob-Nor.

Their poor little villages exist along these rivers up to this time.

The Dulans are divided into three tribes:—

- (1) The Chash Shirin, who dwell along the road from the village of Chadwir-Kul to the town of Aksu and in the village of Peyak-Swindwi, which lies to the south of the main road along the River Kashgar-Daria. They sometimes call themselves Mongols.
- (2) The Bachuk, who dwell along the road from Maral-Báshi to Yarkand.

¹ According to the first census carried out by the Chinese in the year 1760 there were in Tazgun only 700 families.

(3) The Bogur, who occupy the village of Chadwir-Kul only.

The Kalpin section brings in a heradj tax amounting to 14,000 chariks, a tanap tax of 20,000 tengas, and a ziaket tax of 25,000 tengas.

It has a population of 3,000 families.

The village of Kalpin stretches in a long line several versts to the north of the road from the town of Kashgar to Uch-Turlán, and lies close to the latter place.

Liu-chin-t'ang, Governor of the new province, memorialised in 1885 for permission to assimilate the administration of Chinese Turkistán, or Sin-kiang, to that in vogue in China proper, and to deprive the Muhammadan Begg of the power and authority which they had hitherto enjoyed, and which was looked upon as a hindrance to the thorough amalgamation of the province with the rest of China.

Government,

Bayen-hu, the Tungan leader, was driven into Russian territory, and still resides there. As early as 1878 a Kashgarian attempt to overcome the Chinese by massacre would have succeeded if properly organised. It is possible any day, and China can only hold the country with the good-will of the populace. (*See page 467.*)

Many of the Kashgarians were traitors to their country, and fearing the consequences of the Amír's death made terms with the Chinese whilst still at Urumtzi. At first the administration of the country was carried on under Níáz Beg, Hakim of Khotan. The Chinese did not shed much blood after the recapture, but made haste to get rich, and showed anxiety as to their position by collecting all the horses of the country in readiness for flight, &c. (*See page 466.*) The Chinese had not over 4,000 troops about Aksu, 4,000 about Kashgar, 2,000 between Kashgar and Khotan, and 10,000 elsewhere in the province. (*See pages 355, 467.*)

These troops were a mob uncontrollable by their officers; firing off their rifles in the bazárs; shooting peaceful inhabitants for practice, &c.

Urumtzi, Shikho, and Manas were strongly occupied to secure Zungaria.

The indirect interference with Muhammadan customs, of which Mr. Neh Elias speaks in 1879, such as the prohibition of pilgrimage to Mecca, to the women wearing veils, &c., are now not heard of.

In 1885 it was rumoured that the Russians were forwarding large quantities of provisions, such as rice, grain, &c., to Kashgar, and that they were intent on acquiring the road to Ladak: 1,000 camels were collected there and 10,000 loads said to be expected.

Russian intrigue.

The situation of Kashgar, with reference to this route and the routes to the upper Oxus provinces and from the Pamír through Kanjút to Kashmir, renders it of importance to India. (*See page 553.*)

The route from Kashgar to the frontier picket of Irkeshtám is described by Kostenko in Route No. 194 of his "Turkistán Region."

Communications
Irkeshtam,

to

The Chinese frontier station on the road to Osh is at Irkeshtám;

they have camps at Ming-yul, Kara-iglik, and Ulugtchat. (See page 424.) These camps are of the ordinary construction; square or in plan, with flanking towers at the corners; walls 12' to 14' high; rectangular and 6' to 9' thick, provided with a loopholed parapet wall, fronted by insignificant ditches, and occasionally with a musketry wall along the outer edge of the berm.

TO BAR PANJAH.

A road runs from Kashgar to Little Kárakul by the Gaz defile; it is reported to be too difficult for loaded ponies, and in the end of September some of the fords to be crossed are very deep. A better route runs from Ighiz-Yar, south of the Gaz, known as the Karatash route.

Ighiz-Yár is a 3 long days' journey from Yarkand and 22 miles south of Yangi-Hissar at the foot of the hills.

On the Karatash route the Karáwal fort, or frontier post, is 6 miles distant; all using this route must pass through it. At the entrance of the Gaz defile is a similar fort, meant as a defence against raids of unorganised Andijánís or Kirghiz; the frontier guards are taken by the neighbouring villages. Beyond the fort, Kirghiz from the Pamír tribes are settled as cultivators; they grow wheat and barley for their nomadic brethren; the Chinese tax them lightly.

Ghijak is the first stage towards Rang-kul (Chinese Yang Hu). The practical Chinese jurisdiction here ceases. They claim the country to the Murghabi, beyond Rang-kul, and the inhabitants acknowledge the claim.

For details of the country through which the annexed route to Bar Panjah passes, see Report of a Mission to Chinese Turkistán and Badakshán in 1885-86 by Mr. N. Elias. (*Confidential, Government of India, Foreign Department.*)

From Ighiz-Yár to Bar Panjah, Shighnán.

Marches.	Name .	Statute miles.	Description.
1	GHIJAK	19	At 6 miles enter ravine at Uruk Karáwal frontier post. Road passes through fortification. At 11 miles Kirghiz Karáwal and village; also ravine, right bank leading to Kúkerán Jilga and Khusheráb. At 14½ miles road branches from main ravine up Ghijak ravine on left bank. Main ravine to Kinkol and Sarikol. Cultivation, wood, good grass, &c.
2	KARATASH CHAT .	18	At 7 miles leave Ghijak ravine and turn up nulla towards pass. At 12½ miles cross Ghijak pass, about 11,000 feet, very steep on both sides and difficult for baggage-animals. Then descend to valley of Chimgán, or Yángi-Hissár river. Kirghiz village. Grass and brushwood.
	Carried over .	37	

From Ighiz-Yár to Bar Panjah, Shighnán—continued.

Marches.	Names.	Statute miles.	Description.
	Brought forward .	37	
3	SHARGHUT . . .	19	Up Chimgán, 4 miles. Then up ravine, left bank. Track up Chimgán ravine leads over a pass to Káskásu. Grass, artemesia (for fuel); no habitations.
4	Camp on GAZ, above KANG-SHIWAR.	15	At 5 miles cross Kárátásh pass, 14,100 feet to valley of Gaz river. Ascent easy, descent a little steep. At $\frac{1}{2}$ mile from camp very bad, descent of about 200 feet, where baggage-animals must be unloaded. Grass in small quantities and artemesia. A few Kirghiz in neighbourhood usually. The drainage of the whole Kárákul region is taken by the Gaz and flows to Kashgar, the lake being a basin or expansion of a small river. The Kirghiz of the district are composed of representatives of all the tribes, intermarrying, &c. On the eastern Pamirs they are well content to be under nominal Chinese rule.
5	KÁRÁKUL, south end of lake.	12	At $2\frac{1}{2}$ miles cross to left bank of Gaz; then wind through low hills to valley of lake Kárákul. Grass, artemesia, and Kirghiz. [Alternative route down Gaz, past Kang-shiwar (Kirghiz encampment), about 6 miles, then up valley of Kárákul outlet, to north end of lake, about 5 or 6 miles.] Camp about $\frac{3}{4}$ mile south of lake.
6	Foot of TOKHTEREK PASS.	$13\frac{1}{2}$	At $8\frac{1}{2}$ miles Su Báshi, Kirghiz graveyard, &c. Track to Sarikol branches off, then up ravine to foot of pass. Little grass; no fuel. Water scarce in autumn; none in winter.
7	KÁRA-SU . . .	$13\frac{1}{2}$	At 1 mile cross Tokhterek, a low and easy neck, about 13,800 feet, then down easy valley, gradually widening into open Pamir above Kára-Su. Several Kirghiz encampments. Grass, water, artemesia. Track to Tagháрма and Sarikol.
8	RANGKUL, east end of lake.	20	Down open Pamir valleys all the way. Kirghiz all the way. Grass, water, artemesia, and Kirghiz camps.
	Carried over .	130	

From Ighiz-Yár to Bar Panjah, Shighnán—continued.

Marches.	Names.	Statute miles.	Description.
	Brought forward .	130	
9	MURGHÁBI . . .	31	Road down south shore of lake. At $11\frac{1}{2}$ miles lower end of lake. At $15\frac{1}{2}$ miles strike Ak Baital river (dry from about end of September to end of May). Then down Ak Baital valley to within 2 miles of confluence with Murghábi, and camp in bed of latter about $2\frac{1}{2}$ miles below confluence. Grass, artemesia, water, and fish. Kirghiz in neighbourhood. Road good all the way. In summer, when Ak Baital is flowing, this march would be divided into two by camping on the river.
10	YEMAN-TAL . . .	8	Down Murghábi valley, flat and grassy for 5 miles; then over spur and strike Kára-Su valley, about $2\frac{1}{2}$ miles above its mouth. Camp in deep valley, sheltered by cliffs. Willow jungle, grass, &c.
11	OROS BULÁK . . .	26	Up Kára-Su valley. At 24 miles top of Nezátásh pass, or water-parting, 13,400 feet. Almost imperceptible slopes on both sides. Grass, artemesia (rather scarce), and water. This march can be divided in summer; or last march (No. 10) can be lengthened at any time of year to point on Kára-Su, about 4 to 5 miles above Yemántál, where grass and artemesia are obtainable, but no willow wood.
12	ABDULLA KHAN'S RABAT.	17	Down Alichur valley, wide and open. At 9 miles pass Chádir Tásh (isolated rock). Camp at mouth of Básh Gumbaz ravine. Water, grass, artemesia, and fish. Level road all the way. From camp, pass up Básh Gumbaz ravine to Great Pamir, in summer.
13	BURZILLA . . .	17	Down Alichur valley. Level road all the way. Water, grass, and little artemesia.
14	On BULUNKUL stream	21	At 5 miles, south end of Sassik-kul (fresh water) about 12,600 feet. Then along spurs above small lakes. At $11\frac{1}{2}$ miles pass Tuz Kul (salt water). At 13 miles cross mouth of Khargosh ravine, up which track leads over pass to Wakhan in summer. Water, grass, and little artemesia.
	Carried over .	250	

From Ighiz-Yár to Bar Panjah, Shighnán—concluded.

Marches.	Names.	Statute miles.	Description.
	Brought forward .	250	
15	West foot of KOH-I-TEZEK PASS.	15	At 9 miles cross Koh-i-Tezek, 13,950 feet. Ascent gentle; descent into ravine a little steep. Road good. At 14 miles opening of ravine leading to Kukbai pass and Joshángáz. Water, grass, and willow jungle in abundance.
16	Camp . . .	16	Down valley. Willow and thorn jungle all the way, and sometimes difficult for loaded animals to pass through. At 10 miles deserted Shighni villages. Camp in jungle. Water, grass, and wood.
17	SARDIM . . .	14	Down valley. At 8 miles ravine, left, leading to pass to Joshángáz. Jungle troublesome in places. At 12 miles junction of Alichur river. Camp on left bank opposite Sardim. Village of 3 houses. Supplies scanty.
18	CHAHRSIM . . .	14½	Down left bank. At 12½ to 13 miles, half a mile of bad road over rocks by side of rapids. Ponies mostly require unloading. Camp at village of about 7 houses. Supplies.
19	DEH BASTA . . .	20	Down left bank. At 7 miles Wir, village of 7 or 8 houses. At 19 miles cross to right bank; by ford. Village with supplies. A bad ascent and descent 1½ miles below Wir.
20	SUCHAN . . .	15	Down left bank 1 mile; then cross to right by bad bridge. At 4 miles, Revak or Go-Revak; recross to left by bad bridge. Village and supplies.
21	BAR PANJAH . . .	16	At ½ mile cross to right bank. Road a little difficult for baggage-animals. At 8 miles Shakhdara confluence at Khárok village. At 12 miles emerge on Panjah valley; then down Panjah on right bank and cross by ford, or boat, according to season, to Bar Panjah on left bank. Fort and supplies. Afghán garrison, &c.
	TOTAL .	360½	

Kashgar to Yarkand.

24th July.—Heavy rain fell on the night of the 23rd, and a freshet carried away one span of the bridge over the Kashgar river. The river was fordable 12 hours afterwards by carts. From the south gate of the Chinese city a good road runs through cultivation (waste or poorly cultivated for 3 miles). The whole country is intersected by canals. The road is generally fit for two lines of traffic, except at the bridges, which are very poor, generally of trees laid longitudinally across the openings to be spanned.

1ST STAGE.

YAPCHÁN.—6 hours.—51 *li.*—Bar. 25·62".—Temp. 73°. (4,150'.)

25th July.—The road, 25 feet wide, lined by trees, runs through cultivation, well watered by canals and streams, to 5 miles, when a more or less swampy country is passed through (good grazing), until within 6 miles of Yangi-Hissar, when cultivation again becomes general.

Rain.

2ND STAGE.

YANGI-HISSAR.—7½ hours.—64 *li.*—Bar. 25·66".—Temp. 75°. (4,150'.)

To the west of the town, and close under its walls, is a square fort, or camp, of about 150 yards side, its eastern face forming a wall of the town, with which it communicates through the wall.

We went west for a short distance before reaching the fort, which has a side of about 500 yards, ditch 50 to 60 feet wide at top, and about 40 feet at bottom, partially wet, 15 to 20 feet deep, fronted by a 30-foot covered way, with musketry parapet, 3 feet thick and 6 to 7 feet high, and banquette 5 feet wide and 2 feet high. Walls, of mud, 25 to 30 feet thick, about 25 feet high, with parapet 7 feet high, loopholed and crenelated, 3 feet thick; wide (20 feet) ramps at the four gateways, where are projections of 35 yards by 60 yards; gateways double, outer 50 feet, inner 100 feet deep, of brick. The covered way and ditch are carried round the gate projections. In the interior are but few huts. Mud walls divide off several defensive enclosures (quarters for troops) and store-houses. Garrison, 500 cavalry from Shantung. Entering by the east gate we leave it by the south gate, where the suburb comes up close to the walls of the town. (Gates to N., S., and E., only?) Town (and district) of 2,000 families. The water from the western hills is much pleasanter to drink than that from the northern. It is saltish, nevertheless. There are three Chinese Mandarins in the town, one civil (a Leu) and two military, assisted by six Turk Begs of inferior rank.

Twenty-two miles from Khotan is a camp of 500 yards side, with walls 10 feet high, 9 feet thick at base, and 3' 6" thick at top. Two gateways. The Khotan Chinese city resembles that of Yangi-Hissar and the others described. (See page 540.)

Forts to Khotan.

25th & 26th July.—The main street of town, lined by shops, kept by Turks, and reaching to the fort, is cleaner than in the majority of the Turk towns; boughs of trees, laid on horizontal poles, between the houses, give a certain amount of shade. Ice is cheap and can be bought in all the principal towns and villages (where fairs or markets are held). There are a few Hindustáni merchants here.

Traversing the sandy mounds beyond the town, its gardens and cultivation are threaded. Crossing the river by bridge (*see Sketch No. 71*), its flat and barren valley is ascended, the strip of poor cultivation being left to the northward; to the south lie low sandy ridges. At 8 miles, crossing a grassy plain, over which villages are dotted at wide intervals, cultivation recommences at 14 miles, and continues with little intermission to 30 miles, when a sandy plain, flooded by many shallow streams, is crossed before the oasis of Kizil is entered. Throughout the cultivated area the road was flooded for miles owing to the overflow of the irrigation canals.

3RD STAGE.

KIZIL.—12 hours.—31 miles.—Bar. 25·62".—Temp. 66°. (4 150'.)

Three hundred families and a few shops. Throughout the route from Kashgar the villages are collections of scattered homesteads. Few huts are collected together in any numbers.

27th & 28th July.—The road is a heavy track over a sandy waste.

4TH STAGE.

ROK ROBAT.—10½ miles.—81 *li*.—Bar. 25·74".—Temp. 75°. (4,250'.)

An oasis, 1 mile broad, of 400 families; soil, sandy clay, growing barley, maize, &c.; well wooded.

28th & 29th July.—The road, generally 30 feet wide, and lined by trees, narrowing where sand-hills or swamps occur, traverses in turn waste, grassy, partially cultivated, and well-cultivated lands. Country well watered. Rich cultivation commences at 16 miles. For the last 3 miles the road is a wide, sandy, and well-shaded broad-way.

5TH STAGE.

YARKAND.—8½ hours.—70 *li*.—Bar. 25·62".—Temp. 80° (4,100'.)
(To Kashgar 359 *li*, or 120 miles; over the flat.)

The town has a side of about 800 yards. It is fronted by a ditch (30 feet wide at top, about 20 feet deep, and 20 feet wide at the bottom), and covered way, 30 feet broad, with musketry wall, 7 to 8 feet high, and banquette. Wall about 25 feet high, double gates. A street of shops, 600 yards long, connects the east gate with the Turk town, surrounded by a low and dilapidated mud wall (15 to 20 feet high), with flanking projections at intervals. Thence through a labyrinth of narrow ways reach Mr. Dalgleish's house.

The Yangi-Shahars of Kashgar, Yangi-Hissar, and Yarkand are the strongest places in Chinese Turkistán, and impregnable against all but European-trained troops.

They say that there are some 15,000 people in western Kashgaria who look to England, *viz.*, Badákshis (8,000), Kashmiris, Pathans, Hindustánis (3,000), Baltis (2,000), &c. The Russian Consul at Kashgar only aids Russian subjects. There are 1,000 Andijanis here, most of them registered as Chinese subjects; those not so registered are not allowed to remain for any time in the town. Chinese tea alone is allowed to be sold; there are 300 to 400 horse-loads of Indian tea in store, which are thus practically confiscated.

The Mustágh road in winter is closed by snow. It is now closed by water, the streams being unfordable. It is open for about three months during the year,—*i.e.*, September to November. (*See pages 531 et seq.*) The Kugiar road is a good one; no high passes; water now closes it. The Kilian road is now in universal use by order of the Amban. The Sanju road is the best, but not allowed to be taken by traders; there are no high passes along it. It is much better than the Kilian route. To go from Khotan to Leh, traders return to Guma and go by the Kilian or Sanju pass; they do not take the direct route or the alternate one to Aktala. The Khá-lak (Kilik) pass is described as the more difficult of the four on account of its many ascents and descents. (*See page 542.*)

There are three Mandarins in the town, the chief a Chew. In the district are 302,000 families (1,500,000 souls?). Russian cotton goods and chintzes, largely sold here, are thicker and stronger, and wear longer, than the finer varieties sent from India, which are not suited to this climate, where mornings and evenings are cool and the in-door temperature does not rise over about 85°. They are also cheaper. The cottons, &c., look to be of very good quality. The Kashmiri shops have been closed in the bazár of the Turk city and ordered to be reopened in the Chinese town. In about one month's time Russian goods will arrive in large quantities; the stock of them is just now low, the Osh road being difficult on account of swollen streams at present.

Temp. 85° in-doors at 9 to 10 o'clock, rising to 87° in the afternoon.

- 1 yambu = 50 seers (Kitai) = R150 weight.
- 1 charick = 200 seers (Kitai) = 8 seers Indian.
- 1 batmun = 3 jins.
- 1 batti = 50 seers (Kitai) = R150 weight.
- 4 batti = 1 charick = R600 weight. (*See pages 433, 528.*)

The currency consists of yambus, tengas, and cash; 1 yambu = R160; 22 to 25 tengas equal 1 seer (Kitai) = 1 tael = R3; 2 annas = 500 cash (each cash = 2 cash).

There are 120 mahallahs in the town. The Yamen books give a population of 29,000 families in all. The garrison consists of 125 cavalry and 125 infantry. The people are noted for their quiet behaviour. At Kashgar and Khotan they are more restless, and larger garrisons are kept there.

Goitre is here almost universal; it may be due to the defective water-supply, which is drawn from large tanks, scattered over the town, or to organic matter in the water. The Turks are poor architects; their mosques are very primitive constructions, and their minarets are as crooked and winding as would be Harry's first attempt to draw one. (*See page 508*). The Khotan carpets are coarse and roughly made; their colours fade. The Russian dyes seem very stable, and the English quite the reverse. The Turks here are a heavy-handed people and excel in none of the fine arts.

Entertained 6 horses for Leh at 250 tengas per horse; 1,000 tengas paid here, 500 tengas to be paid at Leh; 24 tengas = 1 tael. (*See pages 569, 575.*)

The days are bright, but the nights cloud over. The nights at this season are hot and airless (80° ; day travelling is trying on account of the glare; day temperature of air (shade) 85° to 90°).

The villagers (men) here wear long robes, pyjamahs and knee-boots, skull-caps or conical felt caps, tipped with fur. The women wear long chintz gowns of gay colours (red and yellow), reaching from neck to heels, with wide pyjamahs; their hair, plaited in two thick tails, hangs down their backs. When riding they wear knee-boots. Some of the men have red hair and whiskers.

Kashgarians work but little in silver and gold, and their ornaments are poor and confined to buttons, earrings, and tassels for their women's hair, worn at the end of each tail. The Kashmir and Indian merchants here are the only ones I have met who look back with regret to the time of the Badaulat. For them trade was then brisk; the Russian roads were closed; now it is all the other way: Russia is forcing the sale of her goods everywhere. The agriculturist is now the gainer, and the merchant the loser. In the time of the Badaulat it was the reverse.

In Yarkand are 1,000 Tungani, then there were 3,000 to 4,000. In Karashahar district there are now 15,000 to 16,000 of them (exaggerated statement), and then more; Yákúb Beg would not put confidence in them when he fell back from Umiotza and offered to fight for him. (*See page 461.*) He would not allow them to fight, and yet fell back himself without fighting. The Chentus joined the Tunganis because of oppressive taxation; now they are lightly taxed and well contented with Chinese rule.

In Yákúb's army were from 2,000 to 3,000 Andijánis; in addition were Afgháns, &c., but the bulk were from the towns and districts he had conquered. The Chentus are quiet peasants and have no heart for fighting. The Andijánis are described as *gandah adam*,—i.e., "stinkers," great boasters but poor performers.

Coal at Yarkand is plentiful and costs 10 tengas a camel-load. Wood is used in summer. Camels are said to be plentiful. I saw but one.

The road from Yarkand to Badakshán passes through Tásh-Kurgan. (*See page 527.*)

Sirikol is the country on the northern slope of the Pamir, the chief place of which is Tásh Kurgan.

The road to Leh is traversed frequently by caravans during the months of August to October. A good time to start on the journey is March, when the snow is hard and the rivers unflooded. A very cursory reference to it is here made (*see page 574*), full details will be given in the general report.

Mr. Carey left Yarkand on the 7th March 1887, and travelled by Kargalik and Kugiar to Leh, crossing the Yengi Dawan or New Pass on the 27th March, and the Kara Korum pass on the 5th April.

The cold was severe, and much snow lay on the ground to the south of the Kara Korum in Chai Josh Jilga and as far as Yepchand.

Seven of the Chinese provinces are permitted to send their convicts to Chinese Turkistán; no ill effects from this measure were noticed.

1873.—The boundary of Yarkand extends to the Shindi pass at the head of the Aktash river. Between the Shindi pass and Wood's lake there is the high table-land¹ of the Pamir extending for 5 days' journey (open to disputed boundary?)—(*Dalgleish.*)

The idea that Badakshán was conquered by the Chinese is a wrong one; when they occupied Kashgar in 1759 they pursued the Khwájás as far as Yeshil-Kul. On their murder by Sultan Shah, Mir of Badakshán, the Chinese granted him certain commercial privileges already possessed by the Khan of Khokand. (*See page 451.*)

The connection of the Khan of the Kirghiz of the Rang-Kul and Ak-Baitál with the Chinese is of the loosest description, although the Kirghiz greatly fear them; they give a yearly tribute to Kashgar. The great Kara-Kul and Kizil Jik regions are not recognised by them as Russian territory, which extends to the Kizil Art pass over the range running east and west between the Kul and the Alai Pamir. (*See page 552.*)

The Kirghiz of the Kizil Jik valley consider themselves to be Chinese subjects. The Kirghiz of the Kákui Bel feeder of the Kudara consider themselves subjects to the Shignán ruler. The Rang-Kul Kirghiz pay tribute to both Afghánistán and China. The Murghábi, from Aktash downwards, is considered locally and by the Afgháns to be the frontier between Shignán and Wakhán. It forms as good a frontier line as any other.

Colonel Kostenko asserts that the Pamir between Ferghana and the Baroghil belongs to no one, and that it must sooner or later be included in the Russian dominions. To prevent this it is necessary to close up Afghán and Chinese territory to a common frontier line across the belt in question. The Chinese have directed their Kirghiz subjects to live within the line of the Murghábi and to hold no intercourse with the Afgháns. It is to be noticed that the watershed of the Pamirs also marks the line of profitable trade intercourse between Shignán and Kashgar, those living to the west of it resorting to Shignán and *vice versa*. The total number of the Kirghiz between

¹ This table-land possesses fine pasturage and is frequented during the summer months by the Kirghiz and their flocks. These nomads roam from the Alai Pamir in Khokan territory southward to the Hindu-Kush, and the Khan of Khokan may claim the territory between the Shindi pass and Wood's lake?

Kashgar and Shignán is about 12,000 tents or 6,000 souls (*N. Elias*). For passes into Wakhán from the Alichar see *N. Elias'* account of his journey; both are open for about four months in the year.

From Panja in Wakhán to Tásh Kurgan is 12 days' journey over an uninhabited country. (*See page 527.*)

A cart-road leads to Khotan and Keria.

Keria, the chief place of the district of the same name, is a small unwallled town, with a fairly good bazár. The principal industry of the district is agriculture.

Keria to Khotan and Aksu.

Keria is connected with Khotan by a good bridged road, with well-grown roadside trees, affording a grateful shade, wherever the soil admits of it. Substantial marks have also been erected at intervals of a "fotai," or about $2\frac{1}{4}$ miles. The road passes through a good deal of very barren country.

Khotan is a busy manufacturing town. The population of the oasis, including Khotan, Karakash, and Sampul, numbers 600,000. The area of arable land is too small to supply the wants of the population, and corn and rice are consequently imported, the former from Kargalik, and the latter from Aksu and Kuchur. The Muhammadan city, about $2\frac{1}{2}$ miles in circumference, is very poorly built. The new or Chinese town, about half a mile distant from the old town, contains the public offices, the barracks, and a wide street of shops, neatly and regularly built. The population is stated to be about 30,000 souls. Ruins of the wall of an ancient and much larger city, which included the sites of the present towns, are distinctly traceable at many points.—(*Carey.*) (*See page 535.*)

Mr. Carey thus describes his journey to Shah-Yar, &c:—

"I left Khotan on the 16th of October by the Aksu road, which follows the left bank of the Yurun-Kash river. Two miles from the city cultivation ceased, and with the exception of a small piece of land at Yangi Arik, 10 miles from Khotan, and another somewhat larger oasis of 500 families at Tawakehl on the opposite or right bank of the river, about 40 miles from the city, no cultivation was met with until Shah-Yar was reached. The road then follows the river up to its junction with the Karakash at a camping ground called Kushlash, about 68 miles from the city. The Karakash must next be forded, after which the route is along the left bank of the united stream, now styled the Khotan river. On either bank is a thick belt of jungle. Beyond the strip of jungle, which is of varying depth, is a desert. About 90 miles from Khotan we passed two adjacent and parallel ranges of hills, which rise abruptly from the plain to a height of 500 feet or more, and are known by the name of Mazár Tágh, from the tomb of a saint on the summit. These hills run in a north-westerly direction until they cross the high road between Yarkand and Aksu, at a point a few miles north of Maral Báshi, where we afterwards recognised them. Their peculiar feature is that, though touching one another, and running side by side, the range to the north is white in colour, while the southern one is a strongly-marked red.

"In September the Khotan river is an insignificant stream, 70 to 100 feet wide and 6 inches to a foot in depth. After a devious course of 17 miles below Mazár Tágh ridge it dries up, only leaving pools here and there along its sandy bed. In summer, however, there is an abundance of water, and the river then reaches the Tarim.

"On either side of the Khotan river are drift-sands, the whole way from Khotan to the Tarim. The valley of the former river is about three miles wide and indistinctly defined; on the lower river there are no inhabitants.

"The flora and fauna here are extremely poor. Khotan has an elevation of 4,100 feet, and the confluence of the Khotan river with the Tarim 2,800 feet, 12

miles below the junction of the Yarkand and Aksu darias. Here the Tarim has a width of about 200 yards at low water, and a depth of not less than 5 feet.

"From where the river has dried up, water was very scarce. It was only to be found in pools, few and far between, which had formed in the bed of the river beneath the banks. This inconvenience was, however, compensated by the advantage of no longer having to follow all the sinuosities of the bank, and finding an excellent and direct road down the river bed.

"Crossing the Tarim at the ferry, we followed its course as closely as the nature of the country permitted. At first the jungle was exceedingly dense and thorny, and as there was very little trace of a path, it was sometimes no easy matter to make way through it. About 20 miles from the ferry we left the bush and entered a large plain covered with high grass, and extending for many miles, until at Tippak we left the river, and after crossing 13 miles of desert, reached the outskirts of Shah-Yar. Six miles further is the small town of Shah-Yar in the midst of rice-fields, containing about 2,000 inhabitants, and the residence of a Chinese official styled Dalai, subordinate to the Amban of Kuchar. The whole of the Tarim is navigable for small river steamers from the confluence of its upper waters to Lob-nor. The first inhabited parts of the Aksu oasis occur on the left bank of its river, 18 miles from the ford across the Tarim coming from Khotan, and it is exactly 66 miles farther to the town of Aksu. The Aksu oasis has a population of 56,000 families, according to native information, and is the most fertile part of Kashgaria. (See pages 504, 508.)

"The route lay from Shah-Yar through a swampy track covered with high reeds and rushes, and entirely submerged when the Tarim is in high flood. On the higher ground clear of the marsh, the soil is a fine saline dust, in which the foot sinks deeply. The general character of the country from Shah-Yar to Kultokmik Kul, the point at which the two branches of the Tarim reunite, is a dense reedy swamp with occasional sheets of water in the area reached by the flood-waters, bordered by a desolate saline desert. The Ugen river is not an independent stream, but a branch of the Tarim, which reunites itself with the main channel at Kultokmik-Kul. The Inchiki, or threadlike river, as it is appropriately called, is very narrow and deep, and flows between high banks. It is called the Shah-Yar river farther west.

"Up to the middle of November the weather had been very pleasant in camp, but the cold was now rapidly strengthening, and I therefore moved up to Karashahar, intending to go into winter quarters for a few weeks."

When Mr. Neh Elias visited Yarkand in 1879 on political duty

(1) to make friends with the Chinese, (2) to arrange for the free passage to and fro of traders, &c., (3) to come to an understanding about an interchange of news regarding Russian movements on the Chinese and the Kábul frontier, he described the people to be in anything but a happy condition from the excesses committed by the army of occupation, composed of Hupé and Hu-nan soldiery, who were undisciplined and out of control.

The Chinese Government he describes as caring nothing for the welfare of the people; trade and industries were not fostered, and the raising of a certain fixed revenue their only *desideratum*. (See pages 468, 509.)

He estimated the strength of the army to the west of Aksu to be from 12,000 to 13,000 men, *i.e.*, 6,000 to 7,000 in Kashgar district, 2,000 to 3,000 each in Yangi-Hissár and Yarkand districts, and 1,000 in Khotan. Their arms consisted of muzzle-loading rifles or matchlocks, spears, tridents, and a few breech-loaders.

The Chinese had no fear of a local rising, and were strong enough to repel Kirghiz and Andijáni raids from Chakmak, &c. He describes the Chinese rule as not even a cruel one, but in some respect harsh,

very capricious, meddlesome and *be-kánun*,—much better than what they were accustomed to under the Andijánis. All the authorities were contemptibly ignorant of everything outside their own doors—an ignorance which caused them to suspect and fear everybody from beyond their borders. The trade hindrances that then existed were caused by (I) general depression of trade; (II) high price of transport (₹53-8-0 per load from Yarkand to Leh); (III) detention on the frontier at Kilian, waiting permission to proceed; (IV) delay in acquiring passports to leave Yarkand, and the price of procuring them.

The duties on external trade amounted to about 6 per cent. *ad valorem*. Internal dues were arbitrarily exacted; between Yarkand and Aksu, 3 or 4 duties were levied, and between Aksu and Turfán as many more; against any unjust or excessive demand there was no redress. Russian goods were in chief demand, being better than English goods (and dearer). Indian tea and opium were considered contraband.

The obliteration of all social rank and exaltation of the rank of the meanest Chinaman were subjects of complaint.

He considered that, failing a British administration, the people were anxious for a Russian rule as speedily as possible.

The preparations made at Kashgar, the chief military centre, to collect provisions, forage, fuel, &c., to meet a possible war with Russia, had half-ruined many districts and caused famine prices to rule throughout the land, the price of provisions, horse-hire, &c., being four times their normal rates. It was necessary to requisition these supplies from a distance under a system of forced hire and labour.

Owing to heavy taxation, levied for military purposes, considerable emigration took place in 1879-80 to Ladak and India. The only route to Leh then allowed to traders and pilgrims was that by Kilian; the Sanju and Kugiar, better routes, were closed; the former in summer is less inconvenienced by swollen streams than the Kilian. (See page 537.)

The object of the mission of Mr. Neh Elias to Yarkand in 1885 was (I) to improve the political relations of the Government of India with the Chinese Provincial Government; (II) to remove trade restrictions, throughout Kashgaria, and to put it on a secure and permanent footing; (III) to watch Russian movements on the upper Oxus; (IV) to explore the Afghán districts of the upper Oxus.

The refusal of the Tsung-li-yamen, Peking, to consent to any commercial treaty whatever with India, and to regulate trade with Kashgaria, because it was not a treaty port, being made known to the Kashgar authorities, Mr. Neh Elias met with no friendly reception, as might have been expected.

The Kuldja treaty of 1851 permitted free trade between Russia and Ili, and Tarbagatai (Kuldja and Chuguchak), between the months of March and December, and the establishment of Russian consuls at the two Chinese towns named. Each caravan was to be accompanied by a responsible caravan-báshi, provided with official papers, so that proper precautions for the safety of its *personnel*, animals, &c.,

Neh Elias' mission to Yarkand, 1880.

Trade, India and Kashgaria.

Trade; Russia and the Sin-kiang Province and Mongolia.

might be arranged for. Russian merchants were permitted to build factories in proximity to the bazárs and to pasture their baggage-animals on assigned grazing grounds.

The treaty of Peking, 1860, allowed Russia to establish a consul at Urga, and free trade along the north-eastern frontier; it also permitted her to construct a factory and all necessary buildings for a small colony of merchants at Kashgar and to establish a consul there, to hire or construct a residence for him, &c., as well as at Ili and Tarbagatai, &c. The restrictions put upon the limit of residence and on the methods of carrying on intercommercial relations by merchants were withdrawn. Merchants were permitted to establish their own posts, either letter or merchandise, should they find it beneficial to do so.

It also gave to Russian merchants the right to travel in China for commercial purposes, provided that at no one time they numbered more than 200 at any place, and that they were provided with the necessary passports. When travelling, they were permitted to buy and sell anything that they wished.

By treaty of 1881, re-establishing Chinese authority in Ili, temporarily occupied since 1871, the Russians retained possession of the western portion of the territory as a place of settlement for those who desired to become Russian subjects. The frontier line commences

Russo-Chinese frontier,
See pages 372, 552.) from the Bedjin-tau mountains, follows the course of the Khongas river to its confluence with the Ili river, and, crossing the latter, runs south to the Uzun-tau mountains, leaving the village of Koldjat to the west. From this point it runs as defined by the protocol signed at Chuguchak in 1864. By this treaty the frontier line to the west of lake Zaisan was rectified.

It left to Russian subjects the ownership of landed property acquired in the Ili country during Russian occupation, and gave free liberty to the inhabitants of the valley to emigrate to Russia.

It also arranged for the demarcation of the Ferghana-Kashgar frontier and elsewhere, where not properly defined.

They acquired the right of establishing consuls at Su-chow and Turfán, as well as at Kodo, Uliassutai, Khami, Urumtsi, Guchen, &c., as commerce may develop. The consular buildings and edifices required for a small Russian colony may be erected at Turfán and Su-chow, and Russian merchants are allowed to avail themselves of the Chinese Government postal service. Wherever consuls are established, the Russians have the right to purchase the landed property required for the colony.

It established free trade for 100 *li* (33 miles) on either side of the Russo-Chinese frontier, and in the districts situated on the northern and southern slopes of the Tian-shan range, as far as the Great Wall, until the development of commerce should necessitate the imposition of duties.

Su-chow was fixed as the terminal point to which Russian caravans should proceed; goods unsold can, however, be sent further inland for sale. (See page 189.) All Russian traders are required to be furnished with passports provided by the Russian authorities.

It also confirms the right of Russian craft to navigate the Amur, Sangari, and Ussuri rivers

The passes and the routes by which trade is carried on along the Russo-Chinese border from Kiakhta to Irkeshtam are given below :—

Russian Posts.				
Botsisky.	}	West of the Selenga river to Zaisan post, into Mongolia and the Sin-kiang province and Kansuh.		
Jeltowimsky.				
Kharatsaisky.				
Khamneisky.				
Klioutcheoskoi.				
Khanghinsky.				
Okinsky.				
Tsagan-Obo (Zaisan to Bulun Togui).				
Bourgassoutai (south-west of Zaisan).			}	Ili and Zungaria or the Sin-kiang province and Kansuh.
Khabar-Ussu.				
Bakhty (to Chuguchak).				
Kaptagai.				
Kok-su pass (to Karatala and Kur Kara Ussu).				
Khorgos to Ili valley.	}	to Kashgar.		
Bedal pass (to Aksu).				
Terekty pass.				
Turgat „				
Souiok „				
Irkeshtam.				

To the eastward of the Salenga, trade passes between Siberia and Mongolia and Manchuria by thirteen routes, including that *via* Kiakhta.

The desirability of India being represented at Yarkand, for both commercial and political reasons, has been argued fitfully for the past ten years.

That great benefits would have resulted both commercially and politically from such a representation if made during the past decade is unquestionable. We should now be enjoying the confidence of its people and rulers; Russia would not have gained the paramount position that she has in the country; our trade interests would have been directed to prevent her manufacturers gaining the predominance over ours that they now have, &c., &c.

Kashmir's borders would have enveloped Kanjut, and China's suzerainty would not be now acknowledged there —a matter of little importance so long as China holds Kashgaria, but one of considerable moment to India in the not distant future. (See page 554.) Commercially we might not have gained much by the appointment; politically we have lost much from its want.

Now, in the eleventh hour, although assured sale has been secured to Russia's manufactures, the tastes of the people in clothing ascertained

Trade; India and the Sin-kiang Province.

Kanjut, a Chinese dependency?

and met, and the sale of our manufactures suffering, the proposal to establish a consul or agent to regain for India's prestige the position it is most desirable that it should enjoy, and to resuscitate the sale of our manufactures, is still of moment.

Russian influence is paramount in Kashgaria, and naturally so, for she presses upon her frontiers from east, round north to west.

The presence of the Chinese in Turkistán depends wholly on the will of Russia, who is in a position to occupy the country to Hami, with a very moderate exhibition of force.

Notwithstanding the probable future of Kashgaria, which renders the appointment of a consular agent a matter of doubtful policy, still the advantages that may be reasonably hoped to accrue from it commercially and politically may outweigh all minor and faint-hearted considerations and render it both necessary and advisable.

Such advantages are the pushing further inland and eastwards of the sale of our manufactures, which can still undersell Russian goods of equal quality if we but supply the articles in demand and slightly improve the Leh-Yarkand road (not an expensive work), thereby reducing the loss of pack-animal life along it, shortening time and lessening risks and fatigue, so that merchants may be content with less profit than at present. The roads and railroad now being opened in Kashmir, together with the above, will reduce the export price of our goods about 12 per cent. on present prices, and their sale price at Yarkand about 20 per cent. Other advantages are the gaining of thorough and reliable information, both political and geographical, by our own agents,—information at the present time urgently required before the questions of the boundaries of the upper Oxus provinces and Russian Central Asia and of Kashmir and China or Russia come to be seriously considered; the encouragement of the Chinese to regard us as fast friends, &c., &c.

These advantages and the presence of our agent at Yarkand will draw into the trade merchants of substance; will cause it to extend to Hami, and, may be, the Great Wall at Kia-yu-kwan, and place us in a position to treat authoritatively and with complete knowledge the coming boundary questions.

Admitting, then, that the balance of opinion may be in favour of the necessity of a political and commercial representation in Kashgaria, the following points should, I think, be borne in mind.

The headquarters of the Agency should be in Yarkand, and not Kashgar. The very great majority of British subjects and protected subjects live and trade there. They are comparatively few in numbers in Kashgar.

The Indian caravans load and unload at Yarkand, and not at Kashgar.

Personnel of the Agency. Agent with rank of the Amban at Kashgar.

Assistant Agent or Secretary,—*i.e.*, a student-interpreter of the Chinese Consular Service.

A troop of Bengal Lancers, with two British Officers. This I consider a *sine quâ non*, not for protection, but for purposes of state and show. Our Agent must in

Escort. retinue fall in no way behind his Russian colleague, who has an

escort of 50 well-turned-out Cossacks, all fair Russians. The Chinese believe only in what they see, and with a less escort our prestige would suffer.

A low carriage should form part of the Agent's possessions.

Such a *personnel* would enable the desirable political and geographical knowledge, &c., of the Oxus region, Sarikol, Kanjut, &c., to be obtained by our own agency (*i.e.*, officers of the escort), the only one to be trusted and best worked from a base at Yarkand.

This latter consideration alone, from military and intelligence points of view, would, in my humble opinion, render even an agency that may last but a few years desirable.

The Agent should be both an accomplished Chinese and Persian scholar, if possible. Failing the former qualification, his Secretary of the staff of the student-interpreters from Peking could supply this want.

To be armed with sufficient power to make his authority respected by the Chinese. Our best way to bring the necessary pressure on the authorities of Turkistán would be through the British Minister at Peking bringing his influence to bear on the Tsun li-yamen. Mr. Neh Elias considers that the knowledge that we could, if necessary, encourage Afghánistán against them, who is more feared as a barbarous power than we are as a civilised one, might have a beneficial influence on Indian relations with them.

This points to the close connection that it is necessary should exist between the Kashgarian Agency and Peking; indeed, I think that it should be partly, if not wholly, manned by our Chinese diplomatic and consular service selected by the British Minister at Peking. Indian interests could be safeguarded by correspondence with India and the Intelligence duties carried out by the escort and its specially-selected officers.

The political and commercial Agency, with escort as suggested, may be costly, but if any of inferior retinue and pomp be thought of, I think that it would be better to modify the arrangements altogether, and to be content with establishing at Yarkand a superior customs official, with subordinates at Kashgar, Keria, Aksu, &c. I do not think that any less important an establishment would produce any good political effect.

In this case, if the Chinese Government could be induced to add a frontier branch to the already existing Chinese maritime imperial customs department, officered by Europeans, and a commissioner of customs were established for Kashgar and Yarkand, such an agency could be made, by a friendly arrangement, to subserve our purpose of commercial agent for India, if assisted by Hindustani, Kashmiri, and Pathan aksakals.

The institution of such a frontier branch customs would deprive the Russian consul at Kashgar of much power, and it is to the Chinese Government of extreme political importance to prevent all direct dealings between Russian commercial agents and the Chinese Ambans and other officials, so as to lessen all chances of misunder-

standing. They are equally necessary to China politically at Ili, Kobdo, Uliassutai, &c. (*See pages 338, 339.*)

The commercial treaty is more desirable on political and intelligence than commercial or military grounds, for although there are comparatively few Hindustanis proper in western Chinese Turkistán, yet the number of Asiatics looking to India as Suzerain are large; they are Kashmíris, Badakshánis, Wákhis, &c., over whom it is well to throw the shadow of both our political and commercial support, even if merely to indicate to Russia the extent of our responsibilities.

In Yarkand and vicinity they number, on their own estimate, 15,000; *i.e.*, 8,000 Kashmíris, 2,000 to 3,000 Baltis, &c., including the floating trading population.

From a military point of view I do not consider either Yarkand or Kashgar good stations whence to observe the movements of Russia southwards, except by our own agency, as suggested. Most vague and erroneous rumours are in circulation amongst traders, &c., there. A way of procuring a little good information worth all the gossip of the Kashgarian bazárs, should we remain unrepresented at Yarkand, is to send at certain fixed intervals a confidential trader to travel *via* Kábul or Dir along the Oxus and through the Oxus provinces.

The information that he would bring back, both regarding the restrictions placed on trade, the likelihood of finding markets beyond the Oxus, the conditions of affairs there, and in the Oxus provinces, &c., &c., would be of much value and enable us to shape a course.

With reference to the treaty conditions now proposed (draft of Sir J. Walsham), I think passports and merchandise certificates to be most desirable, and indeed essential, for both British and British protected subjects, *i.e.*, subjects of Afghánistán and her dependencies; of Kashmír and her dependencies. They should enable their holders to travel and traffic to the Great Wall, without restraint or hindrance and clear of *likin*.

British protected subjects not passing from Leh might be allowed to get their passports and certificates at Yarkand. They should be printed in English, Chinese, and Persian.

It would be well to at once claim that our trade be treated in every way on a par with that of Russia,—a treatment to which we are entitled by treaty. To allow otherwise would greatly discourage our merchants, who already find Russian merchants underselling them, and themselves compelled to retail Russian goods to the detriment of Indian exports. When a duty is levied on Russian goods, the same can then be imposed on those from India.

At present the Chinese treat the Indian traders as they do the Russian, but there is no assurance that they will continue to do so, especially if the latter intrigue against them.

It seems only desirable to obtain all the advantages given to Russia under the Russo-Chinese treaty of February 1881, under the restrictions necessary to meet Indian arm and ammunition, and excise regulations, &c., with regard to costly imports alone, such as charas, &c., but without placing too great consideration on cheap and bulky articles such as salt, &c., and to regulate the trade by passports and certificates.

It is not a politic thing to make a Chinaman a present of any treaty right; should our goods be taxed and those of Russia free, we should be regarded as an inferior power and suffer accordingly. Goods to be allowed to pass and repass by the following passes, *viz.* :—

From Kugiar by Yangi and neighbouring passes.

From Kilian by Kalik and Kilian passes. From Sanju by Sanju, &c.

By the Hindu-tágh and Yangi passes to Khotan, and by the passes *viá* Polu to Kiria.

Customs agencies to be established at Yarkand and Khotan.

The merchant, &c., to be allowed to travel wheresoever he pleases, and not be limited to Chinese Turkistán, an ill-defined limit. Trade will not probably pass out of the Sin-kiang or New Province; still it would be best not to limit it north of the Great Wall.

It might be advantageous for British and British protected subjects to acquire lands, build caravansaráis, &c., &c., at other than those where Agents reside,—say at Aksu, Ili, Umiotza, &c.

There is much to be said in favour of a limiting duty of 2½ per cent. *ad valorem* sanctioned by the “*Shariat*.”

It is of importance that our home and Indian manufacturers be supplied with samples of Russian cotton and other goods, chiefly chintzes, such as find ready sale in Yarkand and Kashgar, and even Leh, that they may more clearly appreciate what is wanted at such

Our merchants should meet the tastes and requirements of their customers.

places as Herát, Kandahar, Kábul, Yarkand, Kashgar, &c. Russian chintzes, cotton cloth, with a nap like broadcloth, and their thick

prints, are in demand.

Samples and prices (in Kashgaria) can be readily obtained.

The solitary exception to our want of enterprise in Central Asia is Mr Dagleish,¹ who deserves well of India, for in Yarkand his name stands high amongst all classes, and he has kept to his post under much discouragement from the Chinese, instigated, it is said, by the Russian Consul at Kashgar.

A merchant of such resource might advantageously be encouraged to conduct a caravan through Afghánistán to Persia and the borders of Russian Central Asia.

The prestige gained to the Empire by such men of enterprise and morality is great. I cannot say much for the morality of the Russian shopkeepers I met with in China. They adopt the customs of the people, take concubines of them, and when these cannot readily be obtained, bazár women are not beneath their attention. (*See page 251.*)

Great prestige to be gained through British merchants, if of high morality.

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A perusal of the journal of the Route to Leh points to the great necessity that exists to improve the Leh-Yarkand road, to put our traders on a better footing at Yarkand and to lessen the loss of pony

Trade with Central Asia *viá* Leh carried on under great, but remediable, difficulties.

¹ Since murdered by a Pathán whilst conducting a caravan between Leh and Yarkand.

life along it.¹ It should be made into a good pack-track, 3' wide throughout. At present it is literally strewn with the carcasses of ponies, and a journey over it is a veritable passage through the vale of the shadow of Death; besides improving certain sections of the track, where it passes over rock or a sea of boulders, and encouraging the growth of grass and grains for fodder, and shrubs for firewood, a small outlay in saráis at intervals, at the most barren places alone, is required; the traders,—Kashmíris, Patháns, Badakshánis, Yarkandis, &c.,—under the guidance of the Political Resident at Leh, may be left to do the rest. An enterprising Pathán has opened a shop at Shahidulla for supply of grain, &c.; a few more such would greatly aid the traders.

The best route, *viá* Kugiar to Aktágh, is closed to the traders; when opened, two to three days will be saved. So improved, Panjáb mules, and Kashmíri and Ladákh ponies, could traverse it; by it the Sujet and Sanju or Kilian passes are avoided; both the latter trying passes, especially the latter, on account of its rapid ascent from 1,200' to 18,000'.

It is to be borne in mind that the traders along this line and at Yarkand and Kashgar, &c., whether Hindu-stánis, Kashmíris, Badakshánis, Wákis, Afgháns, or those under Afghán rule, look to us for aid and support. The Englishman in western Kashgaria is regarded by them all with esteem, and to be one belonging to a nation able to help them and on whom they are dependent; at least this was the impression that I formed from their words and their uniform attention and kindness. (See pages 444, 511.)

Enterprising Kashmíris are found in western Kashgaria in large numbers. They here, as in Nepal, Tibet, and parts of Central Asia, carry on the chief trade with India.

They are the chief merchants in Llassa, a centre of communication, and the resort of Kalmuks, Mongols, and other Central Asiatics. (See pages 199, 276.)

Patháns also exhibit great trading enterprise and are found as far east as Aksu, &c. An organised encouragement to these pioneers of British commerce is desirable, and this can be effected by associating them with British commercial firms, or large Parsi and Indian firms, and by a commercial treaty with China, placing our trade on the footing of that enjoyed by the most favoured nation, to which we are entitled by the 54th clause of the Tien-tsin treaty. If our trade be regularised, all indirect taxation, which doubles the customs dues, &c., &c., delays, &c., will be removed. (See pages 540, 541, and Preface, page xiv.)

The Russians object to the presence of Indian traders in Central Asia. Shikárpúr Hindus, to the number of 50 or 60, were practically expelled from Russian Turkistán in 1885.

¹ A few caravansaráis required in the most barren localities; the growth of grass and shrubs to be encouraged, at the next stage or two on either side; quite inexpensive works, but an invaluable boon to traders.

The number of Hindustáni traders in Russian Turkistán, according to Kostenko, were in 1882 as below :—

Semirechia	<i>Nil</i>
Sir-daria	135
Ferghana	370
Zarafshán	352
Amu-daria	<i>Nil</i> .
	—
TOTAL	857
	=

They are scattered over the whole country in all the trade centres, where they live by usury.

He remarks : “ Their numbers far exceed those given in the official returns. They may be reckoned at 3,000 souls. Throughout Turkistán they are all males.” There are Hindu saráis in several of the large towns, Kokhand, Bukhára, &c. In the former city are 30 Hindus. (*See page 526.*)

It is unnecessary to touch upon the military value of all pioneering of commerce. It is great, and Russia duly appreciates it.

Military value resulting from all commercial enterprise.

The chief imports from Ladakh, the entrepôt of the trade with Kashgaria, valued at about 15 to 20 lakhs of rupees annually, are charas, raw silk and raw wool, including pashm, amounting in 1885-86, to the respective values of ₹92,600, ₹1,30,560, and ₹1,32,428.

Imports from Ladakh.

The chief exports to Ladakh are European piece-goods and Indian and foreign teas, amounting, in 1885-86, to the respective values of ₹1,71,480 and ₹67,426. The export trade in the former is said to be steadily improving—a fact I am astonished to hear, because the Yarkand merchants who deal in them complained that they had no sale, and that Russian goods alone obtained a ready market, with the exception of certain linens for puggies; indeed, I found them all retailers of Russian piece-goods.

Exports to Ladakh.

The increase in the export of tea is the more remarkable, since its sale in Kashgaria has been interdicted by the Chinese authorities and the Indian merchants ordered to sell Chinese brick tea only (1887). It has been considered contraband for many years past.

The import of raw silk, wool, and pashm is also on the increase.

The volume of trade with Kashgaria *via* Kashmír will increase with the opening of the railway to Srinagar. This line, and an improved communication between Leh and Yarkand (*see page 548*), will considerably lessen the price at which we can land goods in Kashgaria and enable our traders to compete favourably with those of Russia. The saving is estimated at about 15 to 20 per cent.

In 1886 trade *via* Leh amounted to one lakh of rupees only. It is now fifteen to twenty lakhs.

At Yarkand, Aksu, and throughout Kashgaria, I found the sale of Indian and foreign teas prohibited. The store of an Indian merchant, named Alum Din, a Pesháwari, at Aksu, amounting to one maund in weight, was burnt, and he was ordered to sell the Chinese brick tea. He considers that there would be a good market for Indian tea throughout Kashgaria, as the Turks appreciate its flavour.

Kashgaria affords a good market for Indian tea, if restrictions on its sale be removed.

N. B.—Brick tea, in imitation of the Chinese article, might be manufactured and exported profitably, *via* Leh, into Kashgaria and beyond.

At Yarkand, Indian tea could only be bought secretly.

By way of Leh, English and Indian piece-goods reach Aksu. Prices were there low and unremunerative. The

Throughout Kashgaria, with few exceptions, Russian piece-goods were in chief demand.

Russian trade is well regulated

Russian cottons and chintzes far outnumbered the Indian varieties, and were of better quality. Kashmír goods found no ready sale. Of the 100 foreign traders in Aksu, 3 were Panjábis, under 20 were Patháns, the remainder were Russian subjects. The Russian trade is there regulated by an aksakál, or agent. His presence, and that of the Russian Consul at Kashgar, secure complaints of Russian subjects being attended to.

From Aksu throughout the line Maralbáshi, Kashgar, Yarkand, Khotan, the traders who look to India, *i.e.*, those of India proper, Kashmír, Afghánistán and her dependencies, increase in numbers westwards. (*See page 537.*)

Indian traders are better treated in Chinese than in Afghán Turkistán, and except their inability to recover bad debts, and the embargo put upon their tea, they had no complaints. (*See pages 510, 523.*)

Eastwards of Aksu, as far as Hami, where the summer heat

Light cotton goods find no market in western Kashgaria.

Their sale might be pushed in outer Kansuh.

Panjab export prices of sugar and tea.

becomes considerable, the lighter varieties of Indian piece-goods might find better markets than they do about Yarkand. Were all restrictions removed from the sale of tea, it might be sent advantageously farther east, into Kansuh. There would seem to be a good market for Indian sugars, loaf-sugar chiefly, throughout Kashgaria. Its sale would increase *pari passu* with that of tea. At Karashahar, Russian loaf-sugar, of inferior quality and of coarse grain, sells at 1s. a lb.; at Yarkand, in 1879, common hazár sugar cost 10 tengas the charik, or about 1½ annas the lb. The average price of sugar exported from the Panjáb in 1885-86 was refined R12-14-1 a maund, and of unrefined 3-12 3 a maund. The district tariff of tea at Rawal Pindi was, Indian R50, and foreign R80 a maund, and at Pesháwar R33-8 and R77-8 respectively.

These notes tend to show that our present trade with western Chinese Turkistán can be put upon a better footing at a slight cost, and that it is worth development and extension eastwards to Aksu, Turfán, and Hami.

These commercial considerations and the necessity of improving the Leh route bring into prominence the desirability of delimitating the frontier between Afghánistán, Kashmír, and China.

This can best be done before the present generation passes away,

and traders who frequented the route in the time of the Badaulat can give evidence. Endeavours should be made to cause it to be fixed along the line of the subsidiary and outer watershed, *i.e.*, at the Yangi, Kalik, Kilian, Sanju, Hindu-tágh, &c., passes. The fort at Shahidulla might be reoccupied and made available as a caravansarái and store-house for barley, flour, straw, hay, firewood, tobacco, biscuits, &c., &c., provisions required by caravans.

The frontier between China and Russia was defined by the treaties of Chuguchak (1864), of Kashgar (1877), and of Kuldja (1881), to which reference should be made for details. By the latter the Russian frontier was made to include the Alai valley and that part of the Pamir occupied by the nomad Kara Kirghiz.—(*Belyavsky*.)

The frontier begins at Taldi Ashu (about 49° N. latitude and 88° E longitude, not shown on the Turkistán map), and runs west to the Khabar Asu pass on the Taro Agatai mountains. Then south through Bakhti, Koktum, and Chagan Tagai to Kaptagai. Then south along the Junger Alatau mountains to the sources of the Borotola river. The line then goes south, following the Khorgas river, crossing the Ili river and running east of the villages Kalijat and Sumbe to the junction of the Tekes and Muzart, whence it follows this latter river to its source near the Muzart pass. Here the frontier turns west and continues in this direction till it reaches the sources of the Aksu, when it turns south-west, following the main range of the Tian-shan, and passing through the Siuok pass. Near the sources of the Kashgarian Kok-su (on our maps Kizil-Su, or Kashgar river) the frontier turns south, passing east of the Irkis'am outpost, and following the Irkistam river to the Muz-Tag peak. Here it turns to the west to the Maltabar mountain, whence it runs along the snowy range which shuts in the Kara-Kul on the east, traversing the Kargha-Jáidi,¹ Uz-Bel, and Siuok passes. This Siuok is on our maps called Thuyok, and it is the last point in Kashgar (Chinese) territory.

The frontier from the Muzart pass to the Siuok (Thuyok) pass has just been surveyed and settled in detail by a Russo-Chinese Commission; the line described is the main line on which they had to work. The interesting part of the work would be a definition of the Russian frontier in the direction of the Sarikol Pamir; but it is not known whether this formed part of the Commission's work.

The frontier joining the independent Pamir, Shignán, and Roshan begins at the Siuok (Thuyok) pass. From an official point of view it follows the snowy range which shuts in the Kara-Kul lake to the south, passing through the Kakui-Bel pass to the Takhta Korum pass, but the real frontier is a good deal further south. (*See pages 539, 543.*)

In 1876 the Kirghiz tribes inhabiting the Pamirs, and part of Shignán, declared themselves Russian subjects (this disagrees with later information—*see page 539*); and though the frontier thus established is ill-defined, it may be approximately described as running east from Uz-Bel to the Kara-Art pass, and then south-

¹ On our maps Kara-Art.

east along the western Sarikol mountains till near 37° lat. N. The line then turns west and passes on to the northern Wakhán mountains, which it follows from a place near the Irim Yas pass to Tuz Kuh. Thence north-west till it meets the Aksu a little above its junction with the Alichur. Crossing the Aksu, the line seems to follow the western watershed of this river till near 73° long. E., whence it runs north-west to the Margháb, finally following the western affluent of this river up to its source near Takhta Korum. It may, however, be that the Russians would claim the Shakh Darrah valley in addition to the territory above defined, as this valley is the winter quarters of the Kirghiz tribes.—(*Foreign Department Note.*)

The western Chinese frontier extends to the Bolan mountains, and follows this range in a southerly direction until it meets the northern spur of mountains that springs from the Hindu-Kush. This northern spur runs in an east-south-east direction and joins the Kuen-lun range, taking in the Yengi Dawan pass *viá* Kugiar, the Kilian, and the Sanju pass *viá* Sanju, which becomes the southern frontier. The Chinese consider all to south of the Sirikol district and the above-named passes the territory of their friendly neighbour the British. (*Dalgleish—1883.*) *This may have been so in 1883; it is not so now apparently. (See pages 544, 556.)*

By occupying Kashgaria, Russia gains her dependencies of Sirikol and Kunjut. From the latter province there are passes into Kashmír; *viá* Kugiar and the Mustágh pass; Baltistán is 18 marches from Yarkand. The Kanjustis number about 1,500 men, who live by plunder. There is a high road from Sirikol to Kunjut, *viá* Kurghan-i-ujadbai, easy in the summer months for laden animals (*Dalgleish*). He says, "Any power established in Yarkand could bring an army of any size and of all arms without difficulty to the north base of the Mustágh either from the direction of Yarkand or Sirikol, to which latter there is a direct road from Khokand without touching Kashgar territory at all." If the Mustágh pass were seized, a practicable road for artillery could, he believes, be easily made, and, debouching from the Mustágh pass, an army in the summer, moving by the Bundipur route, would find nothing even to delay an advance into the heart of Kashmír. On the north and north-west frontier of Kanjut are passes; easy, no doubt. They are capable of being seized, but would give time for occupation of the Mustágh range,—*i.e.*, they form an outer line of defence to India. With Kashgaria and Kanjut, he considers Russia would have acquired a position far more threatening to us than if she occupied Herát, or even Kábul,—almost as threatening as if she held Kandahar.

The Province of Húnza consists of two parts, Kanjut and Little Guhjat; the latter extending as far south as the defile 3 miles below Gulmit. It is inhabited by people who emigrated from Wakhán and who still speak the Wakhi dialect; they look to Wakhán as their original home and speak of it as Great Guhjat and detest the Kanjutis,—*i.e.*, they are Wakhi colonists.

The Kanjut Raja has continuously since 1879 sent embassies to

Kashgar with tribute, asking aid against his neighbours. He acknowledged his country to be tributary to China in 1879. (*See page 544.*)

In 1883 Kanjut was no man's land, or according to Mr. Dalgleish considered to be British territory. This small Muhammadan state did not join in the Kashgarian revolt, and on its reconquest by the Chinese, a tribute was sent by its ruler to Kashgar, as customary in former times. The Chinese authorities have recommended that he be granted a peacock's feather and a button of the 4th class. Is Hunza's allegiance to Kashmir unquestionable, or is it now a Chinese protected state?

An early opportunity might be taken, as already suggested (*pages 541, 544, 552*), of indicating to the Chinese that we consider the eastern passes of Yengi-Dawan, Kugiar, Killik, Kilian, Sanju, &c., *i.e.*, the subsidiary or eastern watershed in front of the main Karakorum water-parting, as her boundary. This might be done by building a caravansarai conveniently close to them for purposes of trade. Unless our limits are clearly defined before Kashgaria fall to Russia, many disputes are likely to arise. The Chinese authorities see to the safety of travellers to the eastern foot of the Kilian pass. (*See pages 530, 576.*)

Mr. Shaw remarked in 1876:—

“An interesting question will soon arise as to the measures which will be taken by Russia to prevent a recurrence of the troubles in Khokand, now that she has annexed it. The prime movers in all these disturbances have been the Kipchaks and the Kirghiz of the Alai plain. This plain lies to the south of Khokand, separated from it by a range of mountains, and forms part of the Pamir plateau. The Pamirs are high-lying valleys, or steppes, running roughly east and west, and the **Border lands, Afghan-** Alai plain is only the most northerly of the series. To the **istan, Kashmir and China.** westward the Alai deepens and narrows into a gorge which is the hill district of Karategin. This is with difficulty accessible from the west, where Russian officers from Samarkand have lately been surveying its approaches. From one direction or the other, however, it is probable that Russia may before long seek to control this nursery of troubles, the Alai. Between this point and the easy passes which lead over into the Indus basin, there is only a series of elevated grassy steppes (Pamirs). Colonel Gordon describes them as covered with grass, and says that the hills on their surface are low and rounded, with great openings and depressions appearing everywhere. Referring to these openings one of his guides said, There are paths all over the Pamir. It has a thousand roads; with a guide you can go in all directions.’ From the Great Kara-Kul (Lake), just south of the Alai, to the Indus watershed, there is a continuous open valley, round behind the head-waters of the Oxus. The word ‘Pamir’ is, moreover, explained to mean ‘a place depopulated, abandoned, waste, yet capable of habitation,’ and, in fact, the Kirghiz formerly lived there, though now driven away by political causes.”

The Pamir is the neutral land on which the three empires of
Pamir. Russia, British India, and China converge. From the Great Pamir, or Bam-i-dunya, the Himalayas break away south-eastwards in three main parallel lines, the northernmost known as the Karakorum, or Muz-dagh; here converge the Hindu-Kush from the south-west, and Kuen-lun from the east, and the Tian-shan from the north-east, while the plateau itself merges westwards in the snowy highlands about the sources of the Zarafshan. It is a vast plateau, some 30,000 square miles in extent, with a mean elevation of 15,000', culminating in the east with the Tagharma

(25,500'). Its southern limits seem to be marked by the ridge connecting the Kara-korum with the Hindu-Kush, and forming the water-parting between the Oxus and Indus basins. Northwards its limits are defined by the Alai and Trans-Alai ranges, skirting the south side of Ferghana, and forming the water-parting between the Zarafshan and Jaxartes valleys.

The winter and summer routes lie respectively over the Great and the Little Pamir. It is depopulated, but capable of supporting life; the Kirghiz formerly occupied it.

The passes leading from the Little Pamir south-west to Yasin and Mustuj *viz.*,—the Shandur and Baroghil—are easy; the latter is an extraordinary depression in the great watershed of the Hindu-Kush, low, undulating hills for at least 10 or 20 miles taking the place of the lofty mountains met with elsewhere; the pass is a grassy trough half a mile wide.—(*Barrow.*)

A not very difficult route leads from Tásh-Kurghan to Bozai Gúmbaz (Little Pamir), on the road Hunza to Sarhad on the Wakhán-Daria, with fuel and grass plentiful along it; from Bozai Gúmbaz the track undulates down the valley and is difficult.

Little is known about the country to the eastward of the Kilik pass, and of the routes leading from Sarikul into Hunza.

The Ashkúman or Karúmbur pass, the most easterly of the passes leading from Gilgit into Wakhán, is passable only in winter; it is an important route when not closed by ice.

Thence eastward to the Shimshal pass, no one has crossed the mountains into Wakhán or Sar-i-kul; and the next crossing known is that taken by Lieutenant Younghusband in September and October 1887, between Yarkand and Skárdú. (*See page 569.*)

The watershed of the Yarkand river and Oxus has yet to be explored; the upper courses of these rivers run in deep gorges, but in the space between them the Pamir is said to penetrate and to afford means of access between Sar-i-kul, Hunza, and Kashmír. Kanjut or Hunza is, however, described as a *cul de sac*, buried in the recesses of a gigantic mountain system: there are only three roads out of it leading south; that by the Hunza river, very difficult, except during winter, when the river is fordable; that by Hispar on Skárdú, very difficult and open for but a short time; and that by the Shimshal and Mustágh passes, also very difficult and over glaciers.—(*Barrow.*)

There is little doubt that the summer routes between Sar-i-kul and Hunza are easy.

From Gircha on the Hunza river to Tásh-Kurghan is an 8 days' journey. (*See page 527.*)

The consideration of the facilities of access between the Alai plain and the head-waters of the Indus affluents, has led us past the whole breadth of the Amír of Kashgar's western frontier. The subject Kirghiz occupy the valleys and gorges on the east of the Pamirs, while various tribes of Aryan origin inhabit those on the west. Some of these are subject to the Afghán rule, but are practically not much interfered with by their masters, and, while this is the case, collisions between east and west are not very probable. A Badakhshi auxiliary force was, however, of great assistance to the

Amír Yákúb Beg, in his early conquests in Kashgaria; while only lately the ex-Mír of Badakhshán, Jahandar Sháh, after being defeated in an attempt to recover his former dominions from the Afgháns, came near to taking shelter in Kashgar.

The southern frontier of Kashgaria is bordered by the great Himalayan mountain-system, which may be divided into two belts, the Tibetan region to the north, and a region of alpine nature to the south. The characteristics of the former are great sterility and rolling plains at a great elevation, intersected by high ranges, with comparatively easy passes. The routes in this region present few physical difficulties, and are scarcely ever impracticable, at whatever season of the year, as there falls but little snow, though the necessity for carrying supplies is always a source of difficulty. The southern belt is marked by deep gorges and precipitous ridges; and here the physical obstacles to traffic have had to be overcome by the construction of more or less expensive roads; while the passes are closed for several months of winter. The north-western portion of the former belt (in which direction, however, it begins to lose its general elevation) is inhabited by the independent Dard tribes, who extend over into some of the valleys (Raskam and Singshal) on the Central Asian side of the water-parting. These people, known as Kanjutis, were formerly notorious for their raids on the nearest villages in Yarkand territory, and for waylaying the caravans on the Karakorum route. But, since the Chinese rule has given place to that of the Amír Yákúb Beg, these disorders have ceased, and the Kanjutis are on their good behaviour.—(*Shaw, 1876.*) The Kanjutis now pay nominal tribute to China, 1888.

The Kashmir Government rules over the greater part of the mountain region separating Chinese Turkistán from India. The Kashmir dependency of Ladak is a kind of half-way house between the two countries, and here the two chief routes from India—*viz.*, that *viá* Kashmir proper, and that by the British hill districts of Kulu and Lahaul—unite.

THE KIRGHIZ. (*Lansdell.*)

In the mountains forming the western side of the basin in which lies Chinese Turkistán rise the Sir-darya (Jaxartes) and the Amudaria (Oxus). The country between these two rivers formed the great battle-fields of Central Asia, being conquered from the west by the Persians, Greeks, Arabs and Turkmans, and from the east by the Chinese, Mongols, and Turks. None of the armies from the west pushed their way beyond the Jaxartes. Even the Muhammadan faith had failed to lay hold of the Kazaks when the Russians ascended the Irtish to meet with a people who had never seen the face of a European, and whose only invading foe had been his half-brother Mongol.

But a quarter of a century has passed since Russians could with safety travel to all parts of the steppe, in some portions of which still they number 1 European to 100 natives. There must be masses of these children of the desert who have as yet scarcely seen, much less lived in, a town, and who know but their own patriarchal usages and

laws. These Kirghiz occupy the largest territory, and are the most numerous of all the peoples of Russian Central Asia.

The Kirghiz belong to the Turco-Tatar or Altai race, and their two principal divisions coincide with the surface of their territory,—the Kara-Kirghiz, or Kirghiz proper, inhabiting the mountains, and the Kazaks the plains. The former are also called Diko Kamenni (wild mountain) Kirghiz and Buruts (by the Chinese and Kalmuks). They roam in Semirechia, Ferghana, and Kashgaria,—that is, in the valleys of the Tian-shan, the Alai, and the Pamir, almost to Tibet and Hindustán.

The Kirghiz of the plains or Kazaks or Cossacks are divided into the Little, Middle, and Great Hordes. They are sub-divided into numerous independent races, tribes, clans, and auls (groups of tents). Calculating five persons to each kubitka that pays taxes in the Great Horde, there are about 100,000 souls, in the Middle Horde 406,000, in the Lesser Horde 800,000, and in the Inner Horde 150,000,—in all about 1,500,000 souls.—(*Schuyler*.)

A more correct estimate is that below:—

Akmolinsk	.	.	.	.	.	.	.	329,000
Semipolatinsk	.	.	.	.	.	.	.	489,000
Semirechia	.	.	.	.	.	.	.	595,000
Sir-daria	.	.	.	.	.	.	.	710,000
Ferghana	.	.	.	.	.	.	.	126,000
Zarafshan	.	.	.	.	.	.	.	700
Amu-daria	.	.	.	.	.	.	.	32,000
								2,291,700
								2,291,700

At the end of the eighteenth century the Kara Kirghiz were subject to the Chinese. Subsequently they came under the dominion of Khokand, but in 1842 they made themselves practically independent, until the disputes of the different tribes caused them, one after another, to ask to be taken under Russian protection.

There are many traditions as to their origin;—one makes them emigrants from the Crimea, another from the Euphrates; others make them descend from the Turkish tribes of Central Asia and Siberia, the Ghuz or Oghuz of the Arabs. In 1598, under their Khán, Tevvekal, they conquered the provinces of Tashkend and Turkistán, which latter was the seat of the Kirghiz dynasty till they were dispossessed by the Zungarians in 1723. Rather than submit to the Kalmuk Khán, the Middle and Lesser Hordes moved westwards towards the River Ural, the Caspian and Aral Seas.

In appearance the Kirghiz is midway between a Mongol and a Caucasian. The men are rather below than above the middle height. The women are short. Their skin is bronzed, the covered parts being white; a fair countenance is rare. Their hair is usually black, sometimes chesnut. The general aspect of the face is wide, flat, and angular; the body is vigorous, sinewy, and squared. They are bold riders; their sense of sight is very keen, and their capacity for finding their way most remarkable; their military valour and courage are doubtful; they are lazy and hospitable, and supposed to keep a conscience. In Semirechia they amount to 78 per cent. of the popula-

tion; in the Sir-daria province to 62 per cent., in the Amu-daria to 29 per cent., in Ferghana to 17 per cent., and in the Zarafshan district to 0·2 per cent. They live in kibitkas, which in winter they pitch in sheltered places, concealing them in the reeds and covering them with snow.

They wear long loose gowns called chapans or khalats of cotton or a mixture of cotton and silk; their trousers are of buff or reddish leather. The men shave their heads and wear skull-caps and conical felt hats; they wear slippers or leather boots.

The dress of the women resembles much that of the men; they swathe the head with calico or wear a square head-dress of huge proportions, and plait their hair in small braids. Their national weapon is a long lance, straight and thin.

The Kirghiz are essentially a nation of shepherds; some take to a settled, others to a partially settled life. They carry on their agriculture by irrigation and gather a yield of four-and-a-half fold, whilst the Russian agriculturist, trusting to rain for moisture, reaps a three-fold harvest. Some lands at the eastern extremity of Issik-Kul yield seventy and eighty fold. They only store sufficient grains to meet their wants for the year, and sell the surplus very cheaply on the threshing-floor. As a precaution public grain stores are established. Cattle-breeding—camels, horses, sheep and goats—is the normal occupation of the Kirghiz; they have an excellent breed of oxen employed for traversing the mountains; yaks yielding more milk than their cows are largely kept by them.

Both the sheep and goat are of a large size; the fleece of the former is coarse and more fitted for making felt than for spinning; the goats' hair is largely used for making Orenburg shawls.

During a severe winter the losses of cattle are often very large, hay not being stored in sufficient quantity to meet the exigencies of a severe winter. The winter snowstorm is also a source of great danger, thousands being lost at one time; a winter's loss may equal 2 per cent. of the total cattle in the province. They nomadise early in the spring, returning to their winter camps in the late autumn; keeping to the lakes and steppes in the winter and to the rich mountain slopes in the summer, sowing in both winter and summer quarters.

Polygamy obtains amongst them, but the cost of it restricts it. Fifteen is the marriageable age, the price paid for the bride being 40 to 120 sheep or 9 to 47 head of cattle, together with presents. The bride's parents provide a dowry of a kibitka, cattle, &c. Marriage may be dissolved by mutual agreement or divorce.

They chiefly live on the flesh of their animals, fresh or smoke-dried, in winter, and on their milk alone in summer; *kumiss*, or fermented mare's milk, is considered to be wholesome and strengthening. They eat also *airan*, or curdled milk; dough-nuts made of flour and mutton fat.

They prepare their grains, corn and millet chiefly, as gruel; sometimes they boil meat and salt, sometimes butter and fat, in their tea. They can go without water for a whole day and without food for

several days, and they love to gorge themselves to repletion. They eat both horseflesh and mutton.

They are considered to be Suni Muhammadans; their religion is mixed up with Paganism and Shamanism. What little religious knowledge they have is kept alive by the Mullahs who have received instruction in Samarkhand and Bukhára.

The Kirghiz choose their own judges or "bis," and they are left to a great extent to maintain order amongst themselves by the exercise of their own patriarchal laws.

Thefts are hardly considered criminal. "So-and-so," they say, "has stolen a horse and has not returned it."

Their intelligence is said to be good and the sciences to be quite within their reach.

A few Kirghiz schools have been opened, but the instruction of the youths is generally undertaken by the Mullahs.

The girls are taught to sew, spin, weave, to make cloths, curtains, felts, to embroider in silk and gold, and to cook.

Gradually the Kirghiz fell under Russian dominion, voluntarily, to obtain security from their enemies or by conquest. Towns were established, Cossack colonies planted, &c. Gradually the trans-Ili country was occupied. This led to the submission of the Kirghiz about Lake Issik-Kul. The Trans-Narym district became part of the Russian dominions by the treaty of Peking in 1860, which fixed the frontier with China to the east of Lake Issik-Kul along the southern spurs of the Celestial Mountains to Khokandian territory.

Thus the land occupied by the Kirghiz was being gradually annexed by Russian arms and ruled by Russian administration. In 1867 the oblast of Semirechia was formed, including the Ala-Tau and the Serjiopol districts, the whole constituting the most easterly province of Turkistán, and in the following year the oblasts of Akmolinsk and Semipolatsinsk were re-adjusted with new boundaries, the town of Akmolinsk being made into a provincial capital, though the oblast administration and all the chief administration of western Siberia remained in Omsk; and so things remained until Semirechia was detached from Turkistán to make, with the two Siberian provinces of Akmolinsk and Semipolatsinsk, the general government of the steppe.

After the subjection of the Kirghiz, the Russians had to meet the Khokandians, a collision leading to the junction of the Sirdarian and Siberian lines of forts and the consolidation of the Russian position in Central Asia.

FRONTIER; RUSSIAN TURKISTAN, AND THE SIN KIANG PROVINCE. (*Kostenko.*)

Frontier, with Chinese Turkistán (Káshgaria).—When the Turkistán Military Circle was formed in the year 1867, the Russian frontier with Kashgaria, on the basis of the 2nd article of the Chuguchak treaty, was held to be the southern branches of the Celestial Mountains (the Tian-shan) from the Khán-Tengri group to the limits of Khokand. In spite, however, of such a visible line of frontier, the

then ruler of eastern Turkistán, Yákúb Beg, had no wish to acknowledge it. He, on the contrary, asserted his pretensions to land lying on the left bank of the River Nárin; and, in order to keep up his supposed right of sovereignty therein, he interfered in the affairs of the cis-Nárin Kirghiz, who were Russian subjects. In view to circumventing Yákúb Beg's intrigues and to keeping the Russian Kirghiz from the influence of the ruler of Kashgaria, in the year 1868 a detachment of Russian troops was sent to the Nárin river. The duty of this force was to guard the frontier line; and, to do this, it was obliged to throw a bridge over the Nárin river, in close proximity to the point where a Chinese bridge already existed. Whilst it was occupied with the construction of this bridge, the detachment threw up a small fort on the left bank of the river, and this fort was provided with barrack accommodation. The building of this fort and bridge still more incensed Yákúb Beg, who by the exercise of a futile spite, endeavoured to take his revenge by harassing Russian trade with Kashgaria. Russian caravans were thus kept at Kashgar for a whole year: Russian merchants were arrested and their wares appropriated, payment being given on the very lowest scale,—action which entailed very great loss on the owners. (*See page 436.*)

Yákúb Beg reckoned apparently on the inaccessibility of his country, and was well aware of all the difficulty that would attend a Russian force invading Kashgaria.

In order to compel Yákúb Beg to yield, the Governor General of Turkistán in 1868 busied himself with the construction of a road from the southern portion of Semiretchia to Yákúb Beg's possessions. Work was, first of all, carried on at the Buám gorge, and in the year 1872 at the Juván-Arik defile. The troops furnished the working parties, which were superintended by the sappers under the officers of the Turkistán Sapper Company. These works will always remain as a memorial of the skill and indefatigable energy of Russian troops. By their hands the hitherto inaccessible Tian-shan range was, so to speak, pierced nearly right through, and there now exists a good carriage road right up to Fort Nárin.

From Fort Nárin to Káshgár, a road leads over the Turugárt pass (on the last of the southern Tian-shan spurs). Completion of cart-road, Verni to Kashgar, easy. This road could also be very easily worked up for wheeled traffic. (*See page 527.*)

Seeing the stubborn pertinacity of the Russians in the pursuit of their lawful demands, the Kashgarian ruler became amenable to reason in 1872, and assented to the signing of a trade treaty, by which free trade with Kashgaria was secured to Russian merchants.

The Russian frontier with Kashgaria is protected by forts Nárin and Káarakol. The garrison of the first consists of a local levy and one *sotnia* of cavalry. In Fort Káarakol and its neighbourhood are stationed one battalion of infantry, $1\frac{1}{2}$ *sotnias* of cavalry, and a mountain battery. (*See page 683.*)

The duty of these detachments is—(1) to secure the Russian frontier from hostile operations from the side of Kashgar; (2) to look after the nomad population in the cis-Issik-Kul tract; (3) to protect the Russian colonists. Under the protection of the garrison of the town

of Kárákol, Russian settlers have taken up land about the eastern shore of Lake Issik-Kul. In the neighbourhood of Fort Nárin, too, Russian settlers are arriving. Both the above forts are connected with Táshkand and Vainoye by post-roads.

Whilst on the subject of the securing of our frontier line with Kashgaria, mention must be made of the Muzárt post, in the valley of the Tekes, where that river is joined by the Urten-Muzárt, and 5 *versts* ($3\frac{1}{2}$ miles) from the entrance to the Muzárt gorge.

This post now (1880) consists of half a *sotnia* of Cossacks only, but up to 1870 a very much stronger detachment, called the Tian-shan frontier detachment, held the upper course of the Tekes. When the intentions of the ruler of Kashgaria to enter into an alliance with the Kuljan Sultan, in view to unite action against the Russians, became known, the above detachment was moved to the Muzárt gorge, in order to prevent the Kashgarian forces from crossing the Tian-shan range and from giving aid to the Sultan of Kuldja. The arrangement had effect, for, during the Kuljan campaign of 1871, the Kashgarians were not bold enough to appear as the allies of our enemies.

In 1873 the Tian-shan frontier detachment was reconstituted and the Muzárt post was made a mere look-out station.

Under the protection, firstly, of the Tian-shan detachment, and then of the Muzárt post, a large Russian settlement, called the "Hunters' Suburb," was formed. This settlement lies in a picturesque valley, 28 *versts* ($18\frac{1}{2}$ miles) to the west of Muzárt post on the River Nárin-kol, at its junction with the Kára-kol, which is an affluent of the Tekes. The settlement in question is the furthest and most advanced inhabited point of Russian Turkistán.

The boundary line desired by Russia in 1876 from Yákúb Beg ran from the Suyuk (Siuok) pass, the extreme point on the S. W. of the boundary between the province of Semiraitchensk and Kashgaria, to Fort Ulugchat and on to Mount Maltabar, thus taking into Russian territory Forts Ulugchat, Nagra-Chaldwi, Yegin, and Irkesh-tám.

The claim was made on the plea that the Badaulat had pushed his frontier posts into Kokan territory to Uksalwir, Mashrup, Ulugchat, Nagra-Chaldwi, Yegin, and Irkeshtám along the Osh road to the natural boundary of Nur, and along the road to Uzgent to the natural boundary of Oi-Tal in the Alai-Ku valley, by reason of the dissensions in the Khanate.—(*Kuropatkin.*) (See page 458.)

In 1879 a Russian Consul is said to have resided temporarily at Ulugchat.

Frontier with Zungaria (see page 372).—The eastern and south-eastern limits of the Turkistán military circle are shut in by the huge mountain ranges in the Tarbagatai, Jungár Ala-Tau and trans-Ili Ala-Tau, and by the Rivers Emil, Ili, and Tekes, which, after piercing through the mountains named, form, as it were, the gates to the ranges which generally divide them. Since there is no natural obstacle to an entrance into the valleys of the named rivers which run across the eastern frontier, or Russian Turkistán, the locality in question was open to the inroads of hostile and plundering bands.

The anarchy which reigned in the western provinces of China, in the efforts of the Dungans to throw off the yoke of the *Bogdikhan*, found an echo amongst the Russian Kirghiz on the borders of the province of Semiraitchensk. In order to keep those people out of the strife, and to protect the Russian frontiers from the inroads of plundering bands, the following detachments were posted at the openings which have been named :—

1. Southern Tarbagatai, at Bakta, on the site of Kok-Tuma, former Chinese station, on the road between Urdjár and Chuguchak and 18 *versts* (12 miles) west of the latter point. This detachment consisted of one company of infantry, one *sotnia* of cavalry, and two guns.
2. Kaptagai, further south and not far from the former Chinese pickets of Aru-Tsindálas and Kaptagai. One company was here stationed.
3. Borohudzir, on the river of that name which enters the Ili through its right bank. Strength of detachment one *sotnia* and two guns.
4. Tian shan, on the River Tekes, of which mention has been made above.

The objects in the posting of these detachments were as follow :—

1. The preservation of our frontiers and of our Kirghiz subjects from hostile inroads.
2. The maintenance of order amongst the same people and the hindering them from wandering into Chinese territory.
3. The furthering of trade and the protection of trading caravans moving to western China and back again.
4. In the event of the emigration into Russian territory of the several subject races of China, the offering to them of aid and protection so long as they continued to be loyal to their own Government.

Thus, the four detachments above enumerated became, as it were, a row of mobile posts which closed the approaches to the eastern border of Russian Turkistán.

The attitude of these posts, looking to the character of the surrounding enemy, would be an active one, so that, on the appearance of any robber bands, these detachments had orders to cross the frontier in pursuit.

As the southern Tarbagatai and the Borohudzir detachments had to be kept out for a whole year, barracks and other military buildings were erected for their protection against the bad weather and cold of the winters of 1868-69.

The instances of raids on Russian territory and the driving off of horses and cattle belonging to Russian Kirghiz were very frequent.

As a rule, however, the Russian detachments came up with the raiders and got back what they had carried off. The boldness of these raiders in 1869 reached such a pitch that they actually drove off the Russian artillery horses from the batteries stationed at Lep-sinsk.

The raiders always reckoned on the swiftness and good quality of their own horses, and they concealed themselves in the difficult Barluk or at least Talkin mountains in the neighbourhood of Lake Sairám-Nor. The Russian detachments, therefore, after pursuing the raiders for a long distance across the border, would be not a little fatigued. When the Kuljan Sultan, Abil-Ogla began to aid the raiders in escaping, their inroads became especially bold and daring. Besides thus encouraging raids into Russian territory, the Kuljan Sultan would not allow Russian traders into his country. The lengthened negotiations with the Sultan regarding a change in his course of action led to nothing. There then remained but one remedy,—*viz.*, to crush the Sultan by force of arms and to eradicate the den of thieves in Kuljan limits.

Accordingly, in May 1871, a portion of the Russian forces in the province of Semiraitchensk was concentrated at Borohudzir, and thence moved forward. An end was then put by a few well-delivered blows to the independent existence of the Kuljan Khánate. With the conquest of Kuldja, the instances of predatory inroads into Russian territory altogether ceased. Consequent on the new state of affairs on the frontier, the Kaptagai detachment was removed, the Tian-shan post replaced, as we have said above, by the Muzárt picket, whilst the localities chosen for the southern Tarbagatai and Borohudzir detachments respectively were called Forts Bakhti and Borohudzir. The former of these, being opposite Chuguchak, is situated directly on the frontier with China, whilst by the occupation of the latter the Kuljan region came into the possession of our troops. (*See page 611.*)

Forts Bakhti and Borohudzir likewise afford protection to the Russian settlements contiguous thereto.

The Kuljan region occupied by Russia was in extent as below :

1. The valley of the upper Ili, as indicated on the right by the Borokhoro range (*i.e.*, the Talkin or Iren-Habirgán), and on the left by the Uzun-Tau range, with its diversified population of Taránchis, Dungans, Chinese, Manchus, Kalmaks, Solons, Sibos, Kirghiz, &c., &c.

2. The valley of the River Borotola and Lake Ebi-Nor, beyond the Borokhoro range. This valley is peopled by (*a*) Kizai-Kirghiz and Baidjigits, races which used to take the leading part in the raids on Russian territory and in giving trouble to the Russian settlers and detachments at Tarbagatai, Kaptagai, and Borohudzir; (*b*) Chahár-Kalmaks, dwelling on the lower Borotola and Kiitina; (*c*) Torgouts, a Mongol race akin to Kalmaks. In the same tract we must also include three settled points, peopled by Chinese, *viz.*, Takiánza with about 200 families, Jin-Ho with 352 families, and Shikho with 76 families. These three points lie at the northern base of the Talkin range, on the great Imperial road made by the Chinese from Kulja to Peking. The population of Shikho consists of exiles who were driven forth during the Dungan rebellion in the town of Kar-Kára-Usu, which lies 25 *versts* (16½ miles) from the junction of the Kuljan

and Chuguchak roads. The fugitives from Kar-Kára-Usu found refuge 10 *versts* ($6\frac{2}{3}$ miles) to the north-west of their own homes. In 1872 the territory comprised within the above limits was restored to China.

3. The valley of the River Tekes, peopled by Kalmaks and Kirghiz, who also used to make inroads on Russian territory.

Besides these tracts, after the subjugation of the Kuljan Khánate, the Torgouts, who nomadise on the upper Kunges (an affluent of the Ili), in order to secure themselves from the Kashgarians, sought Russian protection and claimed to be held Russian subjects.¹ (*See page 459.*)

The latter question, as affecting these Torgouts, is not yet decided, but protection was accorded to them on the understanding that they paid tribute. Hence the valley of the Kunges must also be considered as belonging to Russia.

In order to hold the Kuljan region (inclusive of the line of the Kunges river) and to preserve order in the town of Kulja and at Fort Suidun, 40 *versts* ($26\frac{2}{3}$ miles) to the west of Kulja, a portion of the Russian forces in the province of Semiraitchensk was detached. This detachment consisted of 7 companies of the 10th and 2 companies of the 1st Turkistán line battalion, 4 *sotnias*, and 6 guns.

The Kuljan region comprised, so to speak, the advanced post of Russia's Central Asian possessions and covered the flank of her Semiraitchensk province.

In an administrative sense the Kuljan region was divided into two districts, and at the head of each was placed an official who was subordinate to the Governor of the province of Semiraitchensk. The officer commanding the Russian detachment in the Kuljan region was held to be commander of the force in the same tract. The town of Kulja was connected with the Semiraitchensk province by a post-road, which was opened in 1872.

The inner line of forts, or reserve line, supporting the outer line described, are Turkistán, Chimkand, Chináz, Tashkand, Aulie-Ata, Tokmak, Vairnoye (Almata), Kopal and Sergiopal, &c., Samarkand, Khokand, Margilan.

Tashkand is the central point to reinforce the outer line; Vairnoye is well situated as a reserve post to the advanced detachments in Semiraitchia.

The inner posts are connected by a postal road with branches to the several advanced posts. A railway will eventually take the place of the post-road, and possibly connect Samarkand, Chimkand, Tashkand, Aulie-Ata, Tokmak, Verni, &c.

Since the rendition of Kuldja the Russian outpost has been at Borohudzir.

The continuation of the Turkistán railway line to Tomsk will place the Russian Central Asian frontier line from the Caspian to Mongolia within reach of reinforcements from European Russia—a most important consideration, the great difficulties of carrying on war on her Cen-

¹ A small portion of these Torgouts encamped in 1871 in the basin of the Borotola.—(*Author.*)

tral Asian frontier having hitherto been those of the cost and time necessary to bring up reinforcements and reserves of war *matériel*.

The garrisons at present along the Chinese frontier are given on page 683.

The provisioning of corps in Turkistán with warlike stores is effected *viâ* Tashkand from Russia.

Ammunition is brought exclusively from European Russia; the requirements of field and siege artillery are supplied from the circle arsenal at Tashkand.

There are no field or ammunition parks in Turkistán; field parks are organised for the occasion.

Reserves of artillery stores are always complete and kept up by consignments from the arsenals of European Russia.

The infantry use the Berdan rifle, No. 2 pattern, and the artillery is armed with the 9-, 4- and 3-pounder breech-loading guns. The Cossacks have the small-bore Cossack rifle and revolvers.

In time of peace the troops are widely distributed in forts and redoubts, going under canvas in May and returning to barracks in September. During these concentrations manœuvres are carried out, preparations for which we saw as we left Samarkand. The drills are continued also after the return to barracks, the autumn temperature being more favourable than the summer heats. The Turkistán forts, it may be observed, are grouped in two lines, the outer or advanced, and the inner or reserve line.¹—(*Lansdell*.)

THE FORTS OF RUSSIAN TURKISTAN.

The Russian forts in Turkistán would not, from a European point of view, stand criticism, and, indeed, are hardly worthy of the designation of forts. In wars with a European enemy they could offer no sort of serious opposition, but against a Central Asian foe they would present an insuperable bulwark.

Certain of the fortified points of Russian Turkistán bear the name of *forts*, others of *fortified positions*, and others again of *fortresses*. But such designations are arbitrary, and the greater number of points are indiscriminately termed, now *fortresses* and now *fortified posts*.

These may be classified, then, under two categories: (*a*) such as have been made by the Russian soldiery; (*b*) such as have been adapted from Central Asian fortresses, chiefly from native citadels.

¹ On the advanced line there are usually two or three fortified points on the frontier of each Khánate. Thus, Khiva is dominated by Petro-Alexandrosk, and Nukus, a redoubt; Bukhára by Samarkand and Katta-Kurjan; Kashgar by forts at Karakol, Nárin, Muzart, and Gulcha; and Kuldja by the redoubts at Bakhhti and Borohudzir. The inner forts are those at Kazala, Perovsk, Julek, Turkistán, Chimkant, Khojand, Aulie-Ata, Tokmak, Vierny, Kopal, and Sergiopol. The garrisons in these outer forts, with certain exceptions, usually consist of a company, or sometimes even half a *sołnia* (half a hundred) only of Cossacks, whilst the garrisons of the forts of the inner line are still smaller. Tashkand is the central point, wherein is concentrated the bulk of the troops, forming a reserve to the whole of the advanced line. The distribution of the advanced forts in Russian Turkistán, therefore, is along a semi-circular arc, convex towards the enemy, the forts of the inner line being disposed along a parallel arc. The forts of the inner line, moreover, are connected by a post-road, from which other roads branch off to the outer arc. The Turkistán forts have been either erected by the Russians, chiefly among the nomads, or have been adapted from native fortifications. Neither could offer resistance to Europeans, but they present a sufficient obstacle to a Central Asian foe.

The former are mostly found in districts frequented by nomads, and the latter in localities taken up by the settled population. The tracing of the former class puts one in mind of temporary field-works, for all, whether redoubts, trenches, or of whatever description, are very discretionary in their outlines. For instance, Fort Julek has the appearance of a lengthened rhomboid, with towers at the corners. Inside the towers are the powder magazines, whilst on the ramparts of the same are placed the guns.

The forts of the second category are unlike anything European. After the capture of a Central Asian town,¹ the Russian detachment, being numerically weak, would occupy only a portion of the defensive wall, generally the citadel. This portion would then be repaired, ramparts and barbets would be made for the guns, embrasures cut, esplanades cleared,² &c., &c. As the want of space for even a small detachment would have a pernicious influence on the health of the troops, in the fort thus improvised would be left but a small portion of the detachment; the rest would be quartered outside the walls in any native huts that there might be, or, failing these, in barracks run up in the native style.

Inside the citadel would be formed the hospitals, store magazines, artillery and engineers' depôts, &c.

Outside, and protected by the troops holding the citadel, would be built the private houses of the officers, the shops of the sutlers, the bath-houses, &c. In this way would spring up a suburb forming the nucleus of a future Russian town, which, with its own fort, would be side by side with the native city, and yet presenting in its surroundings and mode of life an appearance completely different to that of the native quarter.

Thus, every town of Turkistán is divided into three parts, Russian fortress, European quarter, Asiatic city. The fort of Tashkand, however, has not been built out of the last citadel, but *de novo*. In shape it is a bastioned hexagon, of field profile, with a circumference of about a mile.

The citadel commands the town, and the guns of its ramparts are turned so as to threaten the Asiatic bazár.

In the case of the Samarkand fort, which was adapted from the native citadel, the Russians, in order to strengthen the works, cleared the way for an esplanade by throwing down a large number of the adjoining houses and making a straight and wide street right up to the *rigistán*, or market-place. This street and open space is thoroughly well enfiladed by the guns of the fort.

There is yet another kind of fortified point in Turkistán, of which the sole strength lies in the bravery of the garrison. Of such a description are Forts Bakhti and Borohudzir. These have no walls, but comprise merely the barracks in which the Russian troops are quartered. Neither are there any defensive works at the Muzárt post. The *rôle* of all such points is purely an active one.

The works of such fortresses as have been adapted from native

¹ A Central Asian town is generally also a fortress, *i.e.*, it is surrounded by a wall.—(Author.)

² Esplanades are not added to Central Asian fortified towns.—(Author.)

citadels are very unsatisfactory, for they are generally in a crumbling condition and require constant repair. But, notwithstanding the weakness in a European sense of all the fortresses of Russian Turkistán, they are good enough as regards a local enemy. The instances would, indeed, be rare, in which the natives would dare to attack a Russian stronghold.—(*Kostenko*.)

At present the main communications affecting Russian Turkistán and bearing upon her influence on Chinese Turkistán are enumerated below :—

The town of Tashkand serves as the central point for the roads of the Russian Turkistán district; from here routes radiate in all directions. Tashkand is united to European Russia by two postal high-roads—the shorter through Orenburg, and the more circuitous through Semipaláta and Omsk. The chief inconvenience of the former is that throughout the whole of its extent, as far as Orsk it passes through a wild desert and unsettled locality; but this inconvenience year by year is being removed by the establishment of order in the Kirghiz steppes and by taking measures to place the postal service on a more rational footing. The two postal routes above mentioned, leading from Tashkand into European Russia, diverge at Chimkand, 112 *versts* (74½ miles) north of Tashkand. From Tashkand two other post roads lead to the extreme frontiers of the district—one to Khojend and one to Kokand, whence it continues on to the other chief towns of the province of Farghána; the other to Samarkand and Katta-Kurgan, whence a wheeled road continues on to Bukhára.

From the above there are the following lateral branches :—

- (1) From the station of Altin-Imel, through Borohudzir, to Kulja.
- (2) From the station of Pishpek, through Tokmak, to the town of Karakol.
- (3) From the town of Sergiopol to the station Urjár, on the route to Chuguchák.
- (4) From the Abakúmov picket to the Lepsa station.
- (5) From Khojand to Jizák on the Tshkand-Samarkand road.
- (6) From Tokmak to the fortified post on the Nárin.

The following are postal roads for baggage-animals :—

- (1) From the town of Vernei to the Chunji picket, and
- (2) From the Muzárt picket to the town of Karakol.

The chief caravan routes are—

- (1) From Khiva by the Petro-Alexandroff fortified post and Fort No. 1 (Kazála) into European Russia.
- (2) From Bukhára by Kazála, Perovsk, and Uch-kaiuk to Orenburg, to Omsk, to Troitsk, and to Petropavloff.
- (3) From Tashkand to Khiva, to Bukhára, to Kokand, to Samarkand, to Troitsk, to Petropavloff, and to Orenburg.
- (4) From Aulie-Ata to Kokand.
- (5) From Tokmak by the Nárin fortified post to the town of Kashgar.
- (6) From the Nárin fortified post to the town of Karakol.

- (7) From Kulja by the Talki pass to Manás and Urúmchi.
 (8) From Kulja by the Muzárt pass to the town of Aksu.

Some of these caravan roads are on the steppes; others in the hills.

Troops move chiefly by the postal high-roads, but sometimes they have to follow caravan and mountain paths. The length of all the postal roads in Turkistán amounts to 4,480 *versts* (2,970 miles); out of this there are only three small portions paved.

Many of the articles for the supply of the troops are sent by the caravan routes from Russia into the Turkistán district.

The chief route for communication from the centre of the Turkistán district to Orenburg throughout nearly half its extent lies along the water route on the Sir-daria. Tashkand is 64 *versts* (42 miles) from the Sir, and the postal high-road from Tashkand to Orenburg strikes the Sir river at the station of Tásh-Swát, whence it closely follows the right bank of the river to Kazála. The Aral flotilla established on the Sir-daria furnishes its aid for transporting military stores and articles of supply to Tashkand.

Government loads, intended for Turkistán, are taken from Orenburg to Fort No. 1, whence they are transported by water to the fortified post of Chináz, which serves, so to speak, as a post for the town of Tashkand.

With the establishment of the Russians on the Amu-daria attempts have been made to introduce navigation on this river.

The importance of Russian steam navigation on the Sir and Amu is great. We may now add that, in addition to **Water communications,** the two large rivers just mentioned, the Rivers Chu (for an extent of 300 *versts*-200 miles), Zarafshán, Ili, and Lepsa may be considered navigable rivers. But on the Chu, owing to the complete sterility of its banks, no attempts at navigation of any kind whatever have been made up to the present time. With regard to the Ili, the explorations made in the year 1871 by Mr. Fisher showed that, although difficult, navigation could be carried out on this river for an extent of about 300 *versts* (200 miles) from the ruins of Chinese Kulja to the Ili settlement.

Raft navigation on the Lepsa can be carried on only when the river is full, but is not practised, owing to the sterility of the adjacent districts.

With regard to the Zarafshán, mountain timber from its sources is floated down to Samarkand, and even lower, to Bukhára. The river becomes navigable from Sujina.—(*Kostenko.*)

Yarkand to Leh (Ladák) and Kashmír.

The Bactrian camel of the Kugiar district seems well suited for the transit from Leh to Yarkand. The Yarkandi, **Transport,** Badakshi, and Kirghiz ponies are the best baggage-animals for the route. Ladák and Kashmír ponies are small but sure, and carry fair loads. Ponies should not be loaded with over 2 cwt. Packages to be well sewn up in skins. Spare shoes

are required at the rate of 1 set per animal; spare ponies at rate of 1 in 20. Cost of carriage per pony-load, calculated at 3 mans—

	R
Rawal Pindi to Leh	17
Umritsar to Leh	20
Leh to Yarkand	50
Hoshiarpur to Yarkand	75

(See pages 429, 583.)

Yaks pasture in the coldest parts of Tibet and the eastern parts of Bukhára, upon short herbage, peculiar to mountain tops and bleak plains. They are the best pack-animal during certain parts of the passage, as they are most sure-footed, and carrying weights at great heights does not distress them. (See page 278.)

From Yarkand to Skardú *via* the Mustagh Pass.

Authority—LIEUTENANT F. E. YOUNGHUSBAND.

Weather—Fine.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	H. M.				
1	...	Poshgám	} See Section III, Routes in Asia: Route No. 76.
2	...	Kargalik . . . . .	...	...
3	...	Beshtarik . . . . .	...	...
4	...	Kugiar . . . . .	...	...
5	...	Ak Masjid . . . . .	...	...
6	...	Kalistán . . . . .	...	...
7	...	Mazar Khoja . . . . .	...	...
8	...	Powa . . . . .	...	...
9	...	Chirágh-saldi Pass . . . . .	...	...
10	...	Chirágh-saldi . . . . .	...	...
11	6 10	Braldu	14	Follow down the right bank of the Yarkand

river. Valley is here $\frac{1}{2}$ to 1 mile broad, covered with pebbles, while occasionally patches of grass and jungle are met with.

At 2 miles a valley comes down from the north, up which a road leads to Pakh-pu-lu, distant 3 days' march. At 3 miles the road crosses over to the left bank, along which it continues for another mile, when it recrosses to the right bank. After rounding a spur and crossing a gravel plain, pass over a fine piece of grass about $\frac{1}{4}$ mile square. Four miles beyond this a spur from the northern range runs down and blocks the way. A very steep and difficult path leads over it, but it is not practicable for animals, who have, instead, to cross the river twice to round the spur. The camping ground of Braldu stage is at the foot of the spur. Grass and fuel plentiful.

River at the end of September 2 to $2\frac{1}{2}$ ' deep, 20 to 30 yards broad.

4 15	Dowa	10	...	} Still follow down the course of the Yarkand river
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which is crossed sixteen times during this march, as the valleys are narrow, and the cliffs run down into the river without leaving room for the passage of men or

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	H. M.				

animals. At $1\frac{1}{2}$ miles a stream runs down from the north. At a distance of two days' march up this stream is the village of Pakh-pu-lu, from which a path leads over the Ishak Dawán to the valley of the Tisnal river, and thence to Kugiár. This route is shorter than that by Chirágh-sáldi, but it is not practicable for ponies.

8	45	Aghil Bohor . . .	19	...	Pass round a steep cliff. We had to form a path by
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throwing rocks and boulders into the river.

Cross the river three times, and at one mile from camping ground, leave the Yarkand river, which continues in a due west direction, and ascend the Súrúkwát stream in a southerly direction, passing through a narrow gorge, not more than 10 yards wide, the bottom of which is entirely occupied by the stream, which flows with a strong and rapid current over slippery boulders. This gorge is about 200 yards long, after which you emerge on to an open plain, the bed of a lake which must have been formed there before the river burst its way through the gorge. It was a mile wide, and we passed over it for 4 miles; it was mostly covered with pebbles, but there was also an abundance of good grass and brushwood. After crossing the plain we left the valley of the Súrúkwát river, and ascended that of a tributary in a S. S. W. direction. The Súrúkwát valley continues due E. for about 8 or 10 miles, and then turns off south. After ascending the tributary for 7 miles over a gravelly bed from $\frac{1}{2}$ to $\frac{3}{4}$ mile wide, we crossed a stream flowing in a direction S. E. coming down from a snow mountain; $2\frac{1}{2}$ miles beyond this is a narrow gorge called Tang-itár, similar in character to that at the mouth of the Súrúkwát river; $\frac{1}{4}$ mile beyond this is yet another of these gorges, but still more difficult, after passing through which the path ascends the river bed for some distance, crossing a stream which flows down from a snow mountain on the left, and then ascends the right bank, keeping along it till another stream is met, flowing down a wide valley in an easterly direction. Crossing this we entered a gravel plain scantily supplied with grass, and about one mile wide, at the other end of which we halted. Grass and fuel scarce; water from stream.

...	9	0	Shaksgám . . .	15	...	Ascend the eastern of the two branches into which the stream divides. Keep up the bed of the stream for 2 miles, and then pass over a firm gravel slope partially covered with grass, leading up to the Aghil Dawán. The ascent is very gradual as you rise imperceptibly to a low dip in the mountain which forms the pass. The height of the pass is 16,000 or 17,000'. At the summit is a small lake about $\frac{3}{4}$ mile in circumference. Slight snow lies at the summit. The descent is very much steeper, the path leading over a slope covered with boulders from the mountains on either side. After descending for $1\frac{1}{2}$ hours the valley opens out, and we passed over an open gravelly slope leading down to the valley of the Shaksgám river, before reaching which a very steep gorge has to be descended. The valley of the Shaksgám river is about a mile wide; it is covered with pebbles, and the river flows over it in many channels. A path leads up this valley, and over the main Mustágh or Kárákoram range, to Khapalong in Baltistán by the Saltaro pass. This route is said not to be practicable for animals. We followed down the bed of the river for 5 miles to the camping ground of Shaksgám. Fuel plentiful, grass scarce.
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6	0	Suget Jangal . . .	16	...	Continue to descend the wide pebbly bed of the Shaksgám river for 10 miles to the junction of the Sarpo Laggo river. The former river continues in a north-westely direction, and the route to the Mustágh then
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No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	H. M.				

ascends the Sarpo Laggo, which flows in several channels over a pebbly bed about a mile in width. Suget Jangal is six miles from the junction of the two rivers. Grass and fuel plentiful. From here a path leads off over the Shimshal pass to Nagar. It used to be passable for animals, but I could get no recent information regarding it.

7	40	Parong	8	...	Still ascend the Sarpo Laggo for eight miles, when a huge glacier is met, which comes down from the Mustágh pass. The old route led up the left bank, but it is now no longer passable on account of the formation of snow and ice. We managed with the greatest difficulty to drag our ponies up the right edge of the glacier over great masses of ice and rocks. At Parong there is no fuel to be found, and a very scanty supply of weeds for the animals to eat.
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4	45	Camp	6	...	Continue to ascend the glacier; very difficult. It is necessary to explore ahead first and mark out a route for the ponies to follow.
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8	30	Tsokar	7	...	Continue to ascend the glacier, occasionally getting a footing on the mountain side. There is no moraine now; it is all pure snow and ice. Cross over to the left bank. At Tsokar no fuel; grass very scarce. From here there are two routes—one to the new, and one to the old Mustágh pass. The former pass is now closed by ice, and we had to cross the latter, leaving the ponies behind. They afterwards had to go round by the Kárákoram pass to Leh.
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18	0	Lobsang Brangsa .	13	...	The ascent to the pass is easy, leading over snow. The rarity of the atmosphere, however, makes it impossible to advance for more than a dozen or twenty paces at a time. The descent is of extreme difficulty. The old path has been blocked with ice for many years, and it is now necessary to cross a very steep icy slope, which ends in a precipice, on to a cliff. After descending this cliff more ice slopes have to be crossed with the aid of ropes and pick-axes. This pass is so difficult that no one would attempt to cross except as a matter of absolute necessity. At the bottom of the pass is a glacier broken up into many dangerous crevasses. At the camping spot of Lobsang Brangsa a scanty supply of fuel, but no grass can be obtained.
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10	25	Baltoro	18	...	Continue to descend the Spang-la glacier to its junction with the great Baltoro glacier. The route then keeps along the right bank of this latter glacier. At the camping ground of Baltoro both wood and grass are plentiful.
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8	25	Golep	20	...	Descend the glacier for 6 miles further, when it ends abruptly, and the route then follows down the course of the Braldu river which flows out of the glacier. At Golep there are 3 huts.
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8	30	Askoli Skardú .	18	...	See Route No. 65.
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The road just described follows the usual route to Leh for two marches, as far as Kargalik. It then turns off south through the village of Kugiár, and over the Tupa and Chirágh-sáldi passes to Chirágh-sáldi, on the Yarkand river. Descending that river for two marches in a westerly direction, it then leaves it again, and ascends a tributary to the Aghil Dawán, after crossing which it descends the valley of the Shaksgám river, a tributary of the Yarkand river, for 15 miles, and then ascends the Sarpo Laggo stream, which issues from the great glacier coming down from the Mustágh pass. For three marches the path ascends the glacier; at the upper end there are two passes leading over the Mustágh range. The eastern one is that which is marked on the Kashmír survey as "disused;" the western one, which the natives call the Yangi-Dawán, or new pass, is that which is marked on the Kashmír survey as the "Mustágh pass." This latter pass is now impracticable on account of the descent of a difficult glacier. The eastern one is just barely practicable, though with extreme difficulty, for foot passengers. After crossing the eastern Mustágh pass, the route leads down the Baltoro glacier for two marches, and another march beyond, the village of Askoli is reached, where supplies in small quantities can be obtained. The route then descends the valley of the Bráldú river to Shigar and Skardú, whence two routes lead to Srinagar, one over the Deosai plains, and the other up the Indus, and over the Zoji-la pass; the former of these is the shortest, but is more difficult, and supplies are scarce along it.

If a straight line be drawn on the map from Yarkand to Srinagar, it will be seen that it passes very near the

Chief obstacles.

Mustágh pass and Skardú; and that this route must be considerably shorter than the route by Leh at present in use. But on the Mustágh route there are two great obstacles to be encountered, *viz.*, the Yarkand river and the Mustágh pass, which have entirely closed this route for trade purposes, and merchants prefer to take the longer, but easier, route by the Kárákorum pass and Leh.

The *Yarkand river*, during the summer months, up to the beginning of September, has a depth of more than 4 feet, with a rapid current. After the snow has finished melting, the volume of water decreases and the river becomes fordable. On account of the precipitous cliffs which frequently come down to the river's edge the river has to be crossed over twenty times during the two days' march down the valley from Chirágh-sáldi. Travellers on foot need not cross it quite so often.

The *Mustágh pass*¹ has an estimated height of between 19,000'

¹ *Mustágh pass*, Lat. 35° 49'; Long. 76° 15'. Elev. 19,000' (P)

There are two passes having this name on the route leading from Baltistán to Yarkand, both leading into the same valley on the northern side of the great Mustágh or Kárákorum range which forms the main axis of the Himalayas.

The two passes are about 12 miles apart. Godwin-Austen, writing in 1860, says: "Many years ago the main traffic lay up the Baltoro glacier, and turned off up a lateral ravine to the left, and so over the Mustágh pass, some 12 miles to the east of the pass now in use. This former pass became impracticable owing to the great increase of snow and ice, and Ahmad Sháh ordered a search to be made for some other way over, when the present passage was fixed upon."

and 20,000'. The ascent to it on the northern side is practicable for baggage-animals, though very difficult on account of the rugged nature of the glacier up which the route leads. The descent is absolutely impracticable for animals, and so difficult for men even, that only trained mountaineers could attempt it. Nor could it be improved to make it practicable for animals, for it is almost precipitous, and a great part of the descent is over very steep ice-slopes.

The *other passes* on this route—*viz.*, the Tupa Dawán, Chirágh-sáldi pass, and Aghil Dawán—are not difficult. The ascent to the Tupa Dawán is very steep for about a mile, but as the ground is soft and not rocky there is no fear of danger. The descent is not so steep, but in the lower part the route leads over masses of boulders. The ascent of the Chirágh-sáldi pass (about 16,000') is very gradual and easy. The descent is somewhat steep, leading at first down a shingly slope and afterwards down the bed of a river. The ascent of the Aghil Dawán (about 17,000') is also easy. The descent is slightly steeper, but not difficult.

No *supplies* can be obtained between Kugiár and Askoli. At Kugiár supplies of all kinds can readily be obtained, and at a very cheap rate. At Askoli supplies are obtained with some difficulty, and if required in any quantities would have to be collected from the neighbouring village on the Bráldú river. The country between Kugiár and Askoli is almost devoid of vegetation, but up to the Yarkand river a fair amount of grass and fuel can be obtained round the camping grounds. After leaving the Yarkand river, both fodder and fuel become very scarce, and near the Mustágh pass no shrubs at all are met with, and some small scrubby weeds, which are seen occasionally, have to serve for both fuel and fodder. *Water* can always be found.

(1) A route leads from Beshtarik (the third stage from Yarkand) over the Kilik Dawán to Shahidula. The stages

Lateral communications.

on this route are as follows:—

Beshtarik.	|	Kilik Dawán.
Shakbash.	|	Tograk-su.
Tupa Dawán.	|	Shahidula.

The Kilik Dawán is said to be difficult at present, but if this route were taken into use it would probably become easier than the Kilian pass, which the route to Shahidula now in use crosses.

(2) Before crossing the Chirágh-sáldi pass a route leads off over the Yangi Dawán to Kulunuldi on the Yarkand river, and thence to Aktágh on the main route from Yarkand to Leh *viá* the Kárákorum pass. The Yangi Dawán is not difficult, and I was informed that

The new pass now, however, has become impracticable on account of the accumulation of ice on a glacier opposite the camping ground of Skinmang. But it is quite possible that in a few years this may again become practicable, as in those parts the glaciers alter very rapidly.

The old Mustágh pass can be crossed with the aid of long ropes, and axes to hew steps down the ice-slopes; but it is extremely difficult, and none would use it except under an absolute necessity.

An account of the passage of this pass will be found in the R. G. S. Proceedings for 1883.

(Captain Godwin-Austen; Lieutenant F. E. Younghusband.)

of the routes from Yarkand to Leh it is the best; but that owing to the depredations of the Kanjuti robbers it has fallen into disuse.

(3) From the southern side of the Aghil Dawán a route is said to lead up the Sháksgám river and over a pass called the Saltoro pass, to Khapalong in Baltistán. It is only practicable for foot passengers.

(4) A route leads from Suget Jangal encamping ground (on the Sarpo Laggo stream, which flows down from the Mustágh pass), to Hunza, over the Shamshal pass. One of my guides had been taken over it as a slave thirty years ago. It was then practicable for ponies. I was unable to find out in what state it is at present.

GENERAL CONCLUSIONS.

I am of opinion that this route is, for trade purposes, quite impracticable at the present time, and that it would be impossible to make it fit for the passage of animals. But after the lapse of some years the glacier, which at present blocks the way to the western Mustágh pass, may possibly level down and become passable; but even the Yarkand river will always be a difficulty, as it is unfordable till the beginning of September, while at the end of October the Mustágh pass becomes impassable on account of snow.

RAWAL PINDI;
March 15th, 1888.

F. E. YOUNGHUSBAND, *Lieut.*,
King's Dragoon Guards.

'Yarkand to Leh (Ladákh).

(Cart-road to Kargillik, thence a pack-track.)

1ST STAGE.

AKHIR BAZÁR.—9 miles.—3½ hours.—Bar. 25·75".—Temp. 85°. Elev. 3,970'.

The direct road to Posgam cannot be taken during the flood season.

1st August.—Through cultivation, chiefly rice, near the city. Road, 20 feet wide, in good order, and shaded by trees. At 2½ miles crosses a tributary stream, and at 8 miles the Yarkand river—in August a stream 500 yards wide, with a rapid current. Ferry.

2ND STAGE.

1st & 2nd August.—The broad road, skirting the river, traverses at first a swampy country, and at 5½ miles passes through a richly cultivated and well-watered district, studded with farmsteads. At 13½ miles is Posgam, large village, with shops; soil generally sandy; good grazing and a large expanse of *chi* grass at 20 miles; water of streams and canals now cool and pleasant, but muddy.

Bazárs are held once a week in the chief villages, on which day the villagers flock in from the surrounding farms and homesteads to buy and sell. The isolated and open farmsteads contrast well with

¹ For further notes regarding the routes, Leh to Yarkand, see Records of Mission to Yarkand and Kashgar in 1873-74, and Gazetteer of Kashmír and Ladákh.

the walled homesteads of Kansuh, and indicate peace and security. The Kashgarians possess no arms. The villagers are quiet and inoffensive.

The custom of buying cooked bread, &c., economises the time of single men. The excellent housewife prepares the daily food for the family when it is not to be obtained at a cook-house.

Although mines of copper, iron, lead, and coal may exist in the neighbourhood, yet their working on a large scale could prove no financial success, there being no great demand for metals for local use, and cost of pack and cart carriage, and want of communication, prohibiting all carriage to a distance. (*See page 393.*)

YEKSHAMBA BAZÁR.—22 miles.—Bar. 25'41".—Temp. 80°.
Elev. 4,270'.

3RD STAGE.

3rd August.—The road, in good order and often 40 feet wide, at first traverses cultivation; at 2½ miles it passes over swampy ground. Cultivation again becoming general at 4 miles. At 4 miles cross the Tezáb, a rapid stream, 200 feet broad, to the village of Kulchi (Sarái), whence the well-shaded road traverses rich cultivation to Kargillik, a town of 3,000 families. Between the Tasnif river and Posgam there are said to be 10,000 families. Soil fertile, a sandy clay. Rice is cultivated.

KARGILLICK.—16 miles.—Bar. 25'16".—Temp. 88°.
Elev. 4,550'.

4TH STAGE.

4th August.—The pack-track, crossing a barren stretch, reaches the village of Beshalik at 6 miles. Crossing its cultivated strip, it traverses a barren waste to Bora, a well-wooded and rich oasis, passing over gently undulating ground, bordered by hills, gradually gaining in height, near Bora reaching to 1,000 feet over the general level.

BORA.—25 miles.—9 hours.—Bar. 24'4".—Temp. 85° (shade).
Elev. 5,400'.

Oasis of 155 Turk families. Weather cloudy.

5TH STAGE.

5th August.—Leaving the cultivation, the track ascends on to a barren, sandy, undulating upland, beyond which lies a series of poor oases; grazing good, soil sandy; traversing these, the rich oases bordering the Tazgun river are reached (river 300 feet wide, 2½ feet deep, pebbly bottom) and the gorge of the river entered.

KILIAN.—28½ miles.—11 hours.—Bar. 22'96".—Temp. 75°.
Elev. 7,000'.

Village of 150 Turk families. A rich oasis.

6TH STAGE.

6th August.—Final preparations must be here made to cross the hills.

The track, generally 3 feet wide, at times rocky and always dusty, ascends the valley of the stream, which narrows gradually to a width of a few hundred yards. Barley is cultivated in patches, beyond the village cultivation. Crossing the chasm (bridged) in which the stream flows at 13 miles, the left bank is ascended to Aksu. A bivouac and grass is found at the junction of a side stream; roots for firewood. Barley grown close at hand. Patches of cultivation and grass occur at intervals throughout the route. The hills are of sand and conglomerate chiefly; at times of clay rock, veined by felspar. Track very dusty.

AKSU.—19 miles.—8½ hours.—Bar. 21·86".—Temp. 82°.
Elev. 8,300'.

7TH STAGE.

7th August.—The narrow track, 1' to 3' wide, continues to ascend the valley, crossing its rapid and deep stream (2' to 3') frequently. Bed often very bouldery. The track undulates very considerably. Hill skirts are of sand. A little grazing in the river valley; roots for firewood. The field cultivators live in kabitkas. Hills of sand; its rocky backbone only appears at intervals.

Bivouac at 15 miles.—7½ hours.—Bar. 20·6".—Temp. 75°.
Elev. 9,850'.

8TH STAGE.

8th August.—Track as above. Hills steep and barren. At 13 miles the foot of the Kilian pass is reached (12,100'). A little pony-grazing there; yaks find plenty; no firewood. Ascent and descent of pass, steep and difficult, are effected by yaks; distressing to men and even unladen animals on account of its rapid and long gradient. Height of pass, Bar. 15·95", Temp. 36°, Elev. 17,000'. Bivouacked on the hill-side above the River Kilian; no grass or firewood. Snowing. Snow fell for 18 hours. The Chinese Amban's agent here left us, and his authority here ceased.

Bivouac at 25½ miles.—13 hours.—Bar. 17·85".—Temp. 40°.
Elev. 14,600'.

9TH STAGE.

9th August.—Poor grazing is found at intervals along the river bed, also firewood.

The route descends the valley of the Kilian stream; valley 100 yards wide, bordered by perpendicular hill-sides; crossings of the stream numerous and difficult; granite, grey and red, occurs.

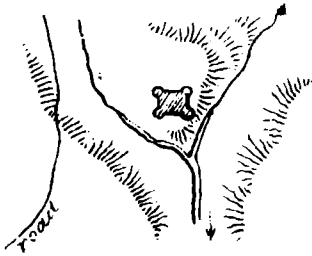
Bivouac in river bed. Firewood; grass in the vicinity.

The filling-in of the ravine between the perpendicular hill-sides is a granite conglomerate.

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I. B. May 1888.
Exd. J. A. A.

Bivouac at 17 miles.—7½ hrs.—Bar. 19'55".—Temp. 56°.
Morning Temp. 34°. Elev. 11,560'.

10TH STAGE.

10th August.—The track descends the Kilian stream for 3 miles, and then ascends the Karakash stream, gaining its left bank by fording the Kalak stream. Route up the stream over the Kalak (Kilik) pass. The Karakash valley is here 400 to 500 yards wide, flat bottomed. Stream, 3' deep and fordable in places, over a sandy bottom; firewood plentiful. Grazing fair, but time is required for a horse to eat his fill. At 15 miles the fort of Shahidulla is passed. The side hills here break up, and several valleys give access into the hills. The frontier between Kashmír and Kashgar was once somewhere here, and may be so still; it ought to be defined.

Hill tracks, known to the Kirghiz, exist between Shahidulla and Wakhan and the Pamirs. (*See pages 540, 554.*)

Bar. 19'35".—Temp. 72°.—By route taken, 18 miles; by route direct, 16 miles.

Bivouac in the Shahidulla valley. Elev. 11,850'.

11TH STAGE.

11th August.—The Kirghiz about Sanju, Shahidulla, &c., brethren of the Alai horde, are well disposed.

Kirghiz nomads inhabit the mountains from above Aksu round to the Sanju pass, and in the northern and north-western section occupy either side of the Russo-Chinese frontier. In the Badaulat's time they formed a sort of frontier guard, their chiefs living a great part of the year at Kashgar.

The Kara Kirghiz, of the Altai, are kept in check by the Russian garrisons of Andiján, Osh, and Gulsha, and other forts in the Ferghána district. Operations against them are carried out without trains. The pass from Osh is difficult and elevated 11,000'. The Guldja pass is the easiest.

From Shahidulla firewood must be taken on to last till the Nubra valley is reached (at least 8 days). At most of the stages a few roots can be found. A Pathán has established himself at the head of the valley, and from him grain for the same period can be bought. The Kirghiz at times graze their flocks in this valley, which keeps a direction of 100° for about 20 miles. The Kárákorum track leaves it at 5 miles and turns into the hills. At 9 miles is camp Suget; grazing is fair and firewood plentiful. This is the best camp from which to commence the passage of the barren section of the hills now to be effected; beyond it the track is up a flat, gently rising, stony valley, 500 yards wide, bordered by steep hills, with patches of snow on their sides. Caravans find no difficulty in getting a sufficiency of grass and firewood to this point. Both now become exceedingly scarce.

19 miles.—Bar. 16'75".—8 hours.—Temp. 66°; night temperature 31°.
Bivouac by the river side. No firewood (a few roots); very little grazing. Elev. 15,600'?

12TH STAGE.

12th August.—The track continues up the ravine, 100 to 200 yards wide, with shaly sides; at $4\frac{1}{2}$ miles it zig-zags up the pass. Height of Suget pass 17,100'? Barometer 15·8"; temperature 32°. The nostrils of all ponies showing distress were freely punctured by a long needle. The descent into a wide shaly valley is gentle, down the hill-slopes, following the course of the stream, which rises under the Suget pass. This flat valley leads into that of the Kargillik stream, which is then ascended at Aktágh. At 22 miles there is a little poor grazing; thence an alternative track leads over the Káratágh pass.

The Badaulat considered Aktágh as the limit of his responsibility for guests.

MALIK SHAH.—11 hours.—27 miles.—Bar. 16·9".—Temp. 56°.

Elev. 15,500'? Bivouac. Snow during the night.

A little very poor grazing and a few roots for firewood.

13TH STAGE.

13th August.—The track continues up the broad (1 mile) river valley; a little grass grows here and there. The country is now composed of broad, flat, shingly valleys, between steep clay hills, with a backbone of rock; all look argillaceous. The sand is a triturated burnt clay. In the main range are masses and bands of a bright red (conglomerate in a matrix of red clay). Hill tops very jagged. At the head of the stream is a lake of shingle, permeated with water from the snow-topped hills enclosing it; beyond, the track passes over a talus of small shingle, separating the brown hills to the south from the red hills to the right.

BRANGSA.— $6\frac{5}{8}$ hours.—13 miles.—Bar. 16·3" (snowing).—

Elev. 16,500'?

Camp on ledge, above river. Roots for firewood; poor grazing.

14TH STAGE.

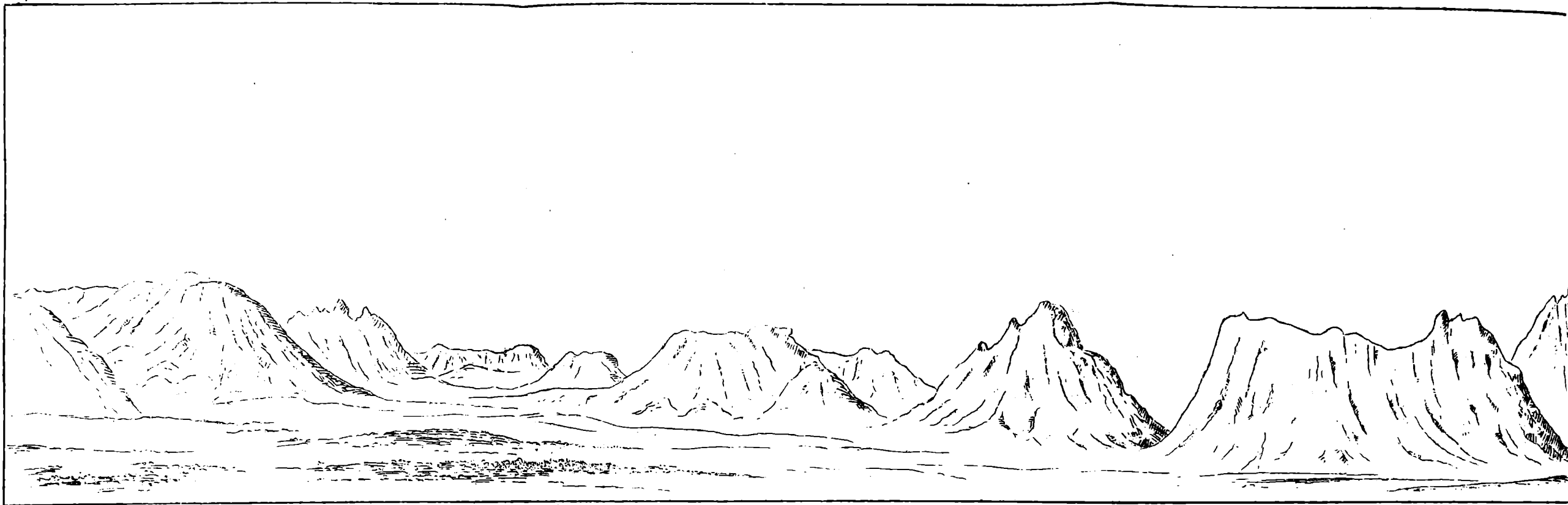
14th August.—From this point to the Murghi Dara the flat shingly beds of the streams are very spongy and saturated with water.

All felt sick and cold this morning. Started in a snow-storm up a lake of shingle, lying between steep snow-clad hills of argillaceous rock and red clay conglomerate; valley, 600 yards broad.

The zig-zag ascent up the pass begins at 13 miles; on its summit the barometer read 15·32", temperature 43°. *Karakorum pass.* Elev. 18,500'? Descending, a valley is traversed, similar to that left, with a bed of shingle, through which its stream courses; stream easily forded.

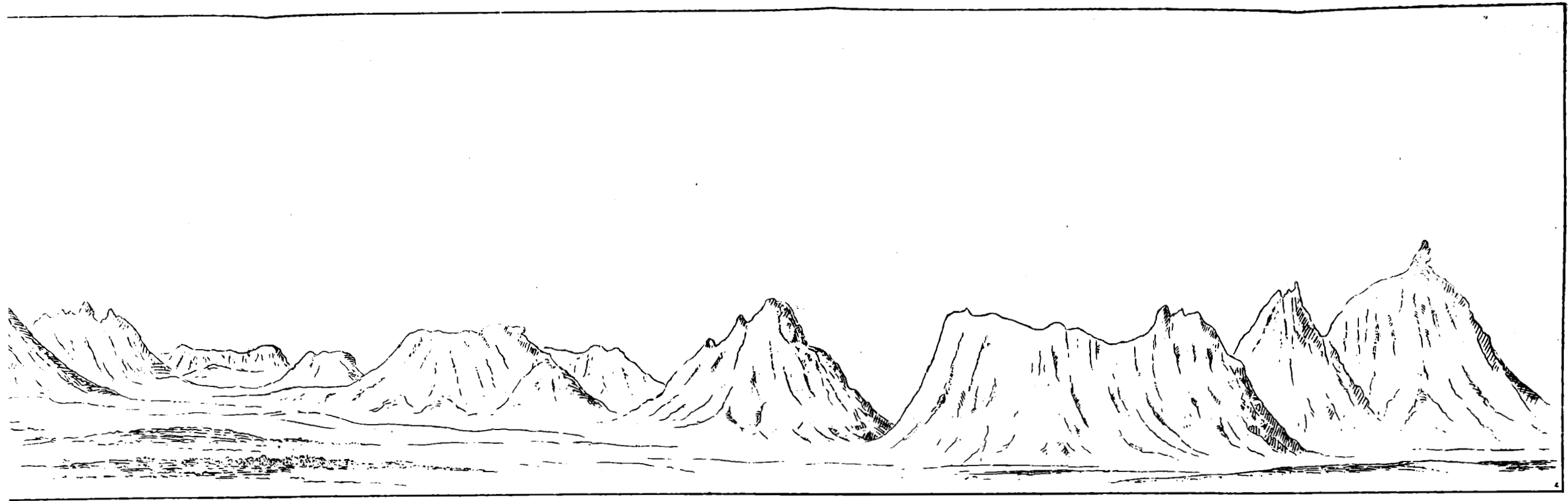
8 hours.—15 miles.—Bar. 15·8".—Temp. 55°.—Elev. 17,400'?

Camp, bed of stream. Roots for firewood; grass very scanty.



I. B. May 1883.
Exd. J. A. A.

APPROACHING THE KARAKORUM.



APPROACHING THE KARAKORUM.

15TH STAGE.

15th August.—It froze during the night and the morning was cold. The track descends the narrowing valley (100 yards), bordered by slopes of indurated yellow and red clays. There is very little snow on these hills about the main watershed of the country; their summits are all clear of it; patches occur on their sheltered sides only. The track is a passage through a real "vale of the shadow of death;" some part of the skeleton of a pony is met with every 500 yards; during August the traffic along it is considerable; we have met on an average a small caravan of about 20 ponies every day. At 6 miles are three mud huts, and a very little poor grazing; beyond, the ravine opens. The direct road to the Sasir pass being now impassable by reason of the depth of the river, a circuit to the eastward, keeping to the hills, has to be made at this season; along the former is the better grazing. The route taken ascends over the Dipsang plateau. Looking back over the Kárákorum range a series of wavy chains of barren hills, running north and south, are seen. The plateau has a gravelly soil, and a width of 12 to 14 miles. A height of barometer 15'6", temperature 45°, elevation 17,700' (?) is reached, and a steep descent made down a slope of loose shale and a pebbly hill-side, to gain a narrow ravine (100 to 300 yards wide), bordered by steep rocky hills, under the main snowy range, along which it then undulates.

11 hours.—23 miles.—Bar. 16'45".—Temp. 43°.—Elev. ?

Bivouac at head of Murghi valley. It froze during the night.

At 6'30 A.M. temperature 33°.

Very poor grazing, or, more properly speaking, none at all.

16TH STAGE.

16th August.—The track keeps down the pebbly bed of the ravine (200 to 300 yards wide), over which the stream courses in several channels, easily forded. At 5 miles is the camp Dara Murghi, with poor grazing. The Murghi ravine now traverses the main mass of snow-topped mountains of argillaceous rock, red clay conglomerate, limestone, chert and felspar, &c. From 10 miles the track is most difficult. It ascends steeply over the hill-sides to avoid landslips which have closed the valley and contractions in the ravine, which is here a deep gorge amidst stupendous hills. Regaining the river bed and undulating along its left bank, or passing down the centre of the stream, the track ascends a side valley at 18 miles, along which a little tamarisk growth, and grazing more plentiful than usual, are found. Should camp here to take advantage of it. The valley is one of detritus between snow-clad mountains, with long tali of shingle.

10 hours.—22 miles.—Bar. 17 0".—Temp. 37°.

Bivouac.—Head of ravine still known as Murghi Dara.

17TH STAGE.

17th August.—Continuing up the valley for ½ mile, the track descends steeply through a cleft in the hills, to gain the pebbly bed of the

stream (Bar. 17'25", Temp. 46°, Elev. 15,000'?) leading into the valley of the Sheok river, which is 500 yards wide and bordered by stupendous mountains, all snow-clad, and against the sides of which rest steep tali of shingle, crowned by avalanches, where they reach into the upper ravines. Its boulders are of hornblende and felspar; some of the rocks in the river bed are of greenstone. Mica is generally wanting. The river is unfordable at this season; one ferry-boat enables passengers and baggage to be passed over; horses swim across. Beyond the river is a camp and a little grazing. The ascent to the Sasír pass is fairly gradual; towards the summit a field of snow is crossed; its stony undulating summit is then traversed, partly over ice, and partly over the stony talus bordering the hill-side, or along the side of an avalanche.

Summit; Bar. 15'65", Elev. 17,800'? Descend over stony, undulating under-features between high cliffs or bordered by avalanches; patches of grass occur at intervals. The track is a shockingly bad one, heavy, stony, steep, over sharp stones, huge boulders, &c., but the Yarkandi and Badakshi ponies get over as well as men can.

Bivouac on the side of a basin of shingle, intersected by water-courses, flowing directly from the avalanches, which here nearly fill the valley. No firewood or roots. Moderate grazing on poor grass, more fitted for sheep than ponies.

10½ hours.—17 miles.—Bar 16'2".—Temp. 55°.—Elev. 16,700'?

18TH STAGE.

18th August.—Snowing. The track descends the valley, undulating over its under-features and slopes, &c., of diorite, felspathic rock and sand, skirting lakes of snow and ice, and avalanches; a fearfully bad and hateful road; at and before reaching Toti Ailák, 5 miles, there is grazing; thence the valley of the stream descending into the Nubra valley is followed; at its head is a huge glacier; scrambling along its stony left side, at 10 miles the stream is crossed by a tree bridge, 25' long, whence the track lies down the right bank amongst huge masses of diorite (it is scarcely possible to conceive a worse track), beyond which an undulating ledgy ascent, in places stony, leads to the summit of the Kárawal Dawán. Barometer 17'7", Temperature 65°, Elevation 14,100'. The descent into the Nubra valley is very steep, at times a rocky winding staircase for 100 feet at a time; the hill-side is of felspathic rock and sand.

CHANGLUNG.—19 miles.—10½ hours.—Bar.—19'9".—Temp. 65°.
Elev. 11,100'.

(Small village. Supplies.)

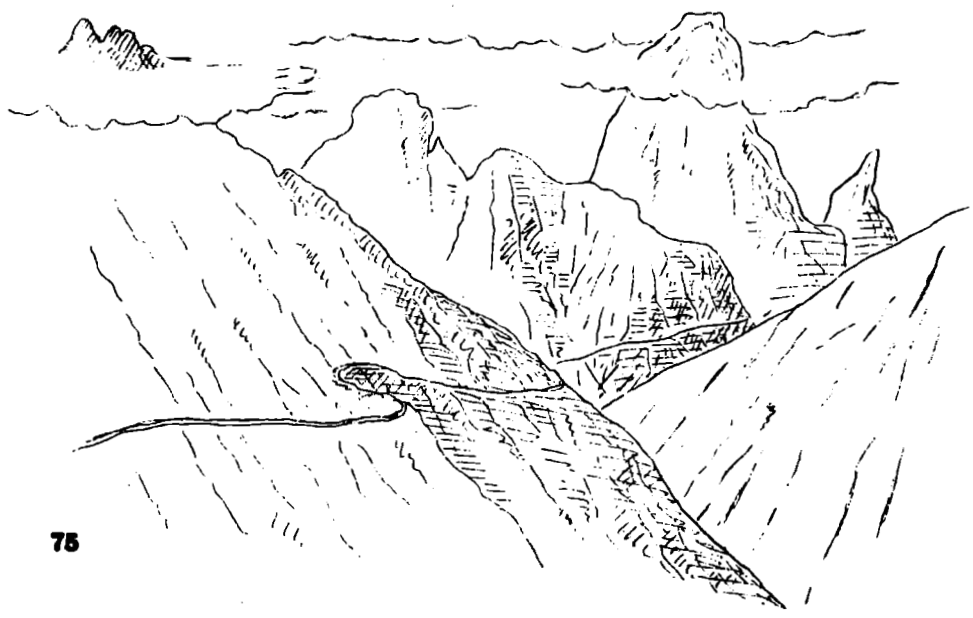
Grazing and cultivation. A transition from death to life. This ascent and descent over the Kárawal Dawán might be avoided by cutting a road down the valley; possible, but expensive. The rays of the sun in the valleys are powerful, and the shade temperature reaches 83° to 85° during the day.



1889
DIVISION

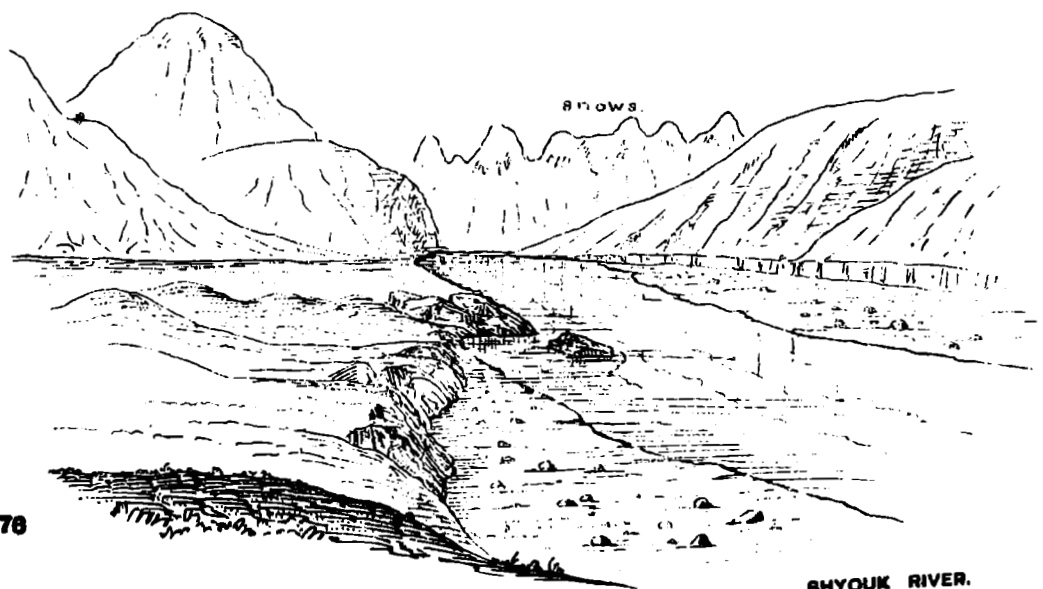
74

KARAKORUM RANGE,
(Series of wavy chains, N. & S.)



75

MURCHI DARA,
16th August 1887.



76

SHYOK RIVER.

I. B., July 1888.
Exd. J. A. A.

19TH STAGE.

19th August.—The road is now more or less formed and a good pack-animal track. It leads down the Nubra valley ($\frac{1}{2}$ mile to 1 mile broad); bed of river, of shingle, through which the river flows in many channels; fan-like oases of willows, wheat, and barley, occur at intervals under the hill-sides, formed in the felspathic sandy soil of the lower skirts of the hills by streams; its border hills are lofty, steep, and of diorite and granite. At 7 miles the extensive Ispangu oasis is crossed; soil felspathic sand and clay. At $10\frac{1}{2}$ miles is the village of Panimek. Pass through a large shrubbery at 19 miles.

TUGHAR.— $10\frac{1}{2}$ hours.—24 miles.—Bar.— $20\cdot4''$.—Temp. 55° .
Elev. 10,450'.

Bivouac in a damp clump of apricot trees. Both men and women of this valley are hideously ugly and of poor physique; the men wear pigtails; the women are scraggy, miserable-looking creatures; plait their hair in tails, and clothe themselves in rags and tatters of various colours, and in sheepskins. They do all the work, including field-work. They seem very poor, but are credited with possessing hidden stores of rupees. They are said to be too numerous on the soil. Both polyandry and polygamy are said to be practised, a number of brothers taking one wife; a man may also take several wives. The goats of the valley are most diminutive in size. A valley of pigmy life.

20TH STAGE.

20th August.—Below Tughar the river forms a wide elbow and lake; to the westward it gives access to Baltistán. This road is bad and fit for coolie-carriage only; a foot-man does the journey in 11 days. The Leh track is now over sand, at times through tamarisk growth, at others through oases. From the elbow the right bank of a tributary stream is ascended by a stony road, or ledge; or over deep sand.

SATI.—16 miles.— $6\frac{1}{4}$ hours.—Bar. $20\cdot1''$.—Temp. 80° .—
Elev. 10,850'. (Village and oasis.)

21ST STAGE.

21st August.—Valley, $\frac{1}{2}$ mile to 1 mile broad; still bordered by barren hills, rising upwards of 2,000 feet over the river.

Beyond the village the river is crossed by a ferry (2 boats); it is 200 feet wide; rapid current; bouldery and sandy bed; flush, pebbly banks. Tamarisk grows plentifully along the banks. The road, a good pack-track, beyond the river ascends a gorge in the hills leading to the Khardung plateau. Grazing is met with at intervals in the ravine, which has a general width of 150 yards.

KHARDUNG.— $8\frac{1}{2}$ miles.— $6\frac{3}{4}$ hours.—Bar. $18\cdot45''$.—Temp. 85° .
Elev. 13,050'.

(Village; grazing and cultivation.)

22ND STAGE.

22nd August.—Yaks are obtained here for crossing the pass to Leh.

The ascent over the Khardung pass is gentle for 10 miles; the final steep ascent is over snow and takes 1 hour, the ascent being one of 1,250'. Height of pass 17,700'. Barometer 15.64", Temperature 55°. The descent into Leh is steep, by an indifferent track.

LEH.—10 hours.—20 miles.—Bar. 19.55".—Temp. 65°.
Elev. 11,560'.

There are three passes leading to Leh; that taken was the Kardung or Laowchi pass. As will have been seen, from the Sheok river is the worst and most difficult section of the whole road. To facilitate trade it requires to be put into good order, and a depôt of supplies with a sarái established on the Sheok river. A month hence this pass will be closed and the Digar pass used. After November the river routes are followed, the ice then bearing. The Leh bazár is well frequented during the months of August to October; after that business is inactive. Traffic is carried on by barter, Indian exports being here bartered for those from Yarkand and Khotan; charas, silk, &c. Yaks are plentiful; merchants use them to the other side of the Sasír pass, if possible. During winter a limited number of caravans take the river route, the pass leading to which is called Chang La. Sufficient grain is grown in the valley for the inhabitants of the place and to export. A little liquor is also manufactured. In the neighbouring valleys is fair grazing, and here the transport ponies regain strength before returning to Yarkand. The Ladákhis are people of few wants; they do not desire to accumulate wealth, and those who do so do not know what to do with it. Notwithstanding their poor and ragged appearance there is said to be hidden wealth among the people. There is good grazing in the valley, which at Leh is 4 to 5 miles broad. The Indus is fordable in places, and in winter is crossed on the ice.

The boundary line between Kashmír and China requires to be fixed and demarked. Twenty years ago the Boundary; Kashmír and China. Kashmír outpost was at Shahidulla. The furthest outpost held by Yákúb Beg, I was told, lay below the line of the junction of the Kilian and Kárákash streams. Full evidence can be collected on points relating to the frontier now; a few years later, the merchants and others who frequented the route, and who can give evidence of the frontier that existed in Yákúb Beg's time, will be dead. (*See pages 553, 577.*)

In crossing the Himalayas the training of transport animals in the matter of food, to eat little, and at night only, is important. The Badakshi and Yarkandi horses during the passage over them are fed at night only. They then pick up what they can, and get one feed of barley (about 4lb) in the morning, one hour before being loaded up. These ponies are quite as good as mules, and very sure-footed; mules are rare throughout Kashgaria, and most rare in its western half.

All must learn to do with as little firewood as possible. Biscuits, baked at Yarkand, alone are carried; a sheep is killed when it can be bought.

The Badakhshánis, who are met with in large numbers about Kashgar, Yarkand, and on the road from the latter place to Leh, describe their country to be a fine one, much resembling Kashmír. One and all have not a good word to say for their Afghán rulers, whom they thoroughly detest. They are said to rob and oppress to the extreme limit of the endurance of the people, who look to the British to free them from the tyranny of their present masters.

Kunduz is described as a poor country. Shignán and Roshán are described as hilly but fine countries. Fruit (pista, walnuts, apples, and pears) plentiful. They are well wooded; the hills are of clay and the soil productive; pasture is abundant and rain falls plentifully; sheep are plentiful and of huge size; they cost $\text{R}2$ each.

Baltistán is described as a poor hilly country, possessing but one good bazár.

The Sirinagar route to Leh from Rawal Pindi is more used for merchandise than that from Umritsar; by the former route the cost of transit per maund of merchandise to Leh is $\text{R}27$, and by the latter $\text{R}28$. When the cart-road to Sirinagar from Murree is opened, and camels take the place of ponies or mules, about $\text{R}2-8$, or 25 per cent. on the present cost of carriage from Rawal Pindi to Sirinagar, will be saved. The opening of the railway will reduce this still more, so that it may be confidently expected that a few years hence, if also the road from Leh to the Kárákorum be improved, goods will reach Yarkand at an average cost for transit of $\text{R}22$ a maund, or at a saving of about 13 to 14 per cent. on present rates. (*See page 569.*)

At various times, and notably in the Geographical Report by Colonel Trotter, printed as Chapter VII of the Report of Sir D. Forsyth's mission, hopes have been expressed that the road Leh to Kiria, if rendered available for traffic, would form a valuable trade route, as it runs direct to India, without passing through any part of the territory of the Máharájá of Kashmír.

From the frontier of Ladákh to the Sulphur Horse pass at the head of the Polu ravine, the road is certainly an easy one, inasmuch as it is fairly level and free from obstructions or very bad places. But the great height of over 16,000 feet at which it runs, and the resulting oppression of breathing during so many days continuously, make it extremely trying to both men and animals. The grass at such an elevation is always coarse and scanty, and probably August, September, and October are the only months during which it would be safe for a trader's caravan to attempt the journey. Snow is very prevalent. Another drawback to the route is that it enters Turkistán at a point too distant from the markets of Yarkand and Kashgar. The ravine from the Sulphur Horse pass to Polu is so difficult as to be impracticable for laden baggage-animals. The

water in the bed of the torrent, which has to be crossed many times, was fortunately low, or the ravine would have been impassable. The chief point in its favour is that it avoids Kashmír territory, a consideration now of no importance, since, owing to improvement in our political relations with that State, traffic passing through it by the Sirinagar and Murree road is as free from interruption as on the treaty road *viá* Lahoul.—(*Carey*.)

ROUTE No. 12.
From Leh to Sirinagar.
(Pack-track; 258 miles.)

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		Details.
			Inter-mediate.	Total.	
1	24th Aug.	NIMMU Bar. 20'3". Temp. 65°. Elev. 10,560'.	19	19	Weather cloudy, very unusual for Leh at this time of the year. Air dry. Reckoned 1½ stages. Cost of transport, 0-12-0 per pony per stage; capital ponies, though small.
2	"	SASPU Bar. (river bed) 20'55". Temp. 85°. Elev. 10,250'.	14	33	Foot-bridge over river here 200 feet wide. Cultivation is met with at intervals. Rest-house.
3	25th "	NURLA Bar. (river bed) 20'8". Temp. 68°. Elev. 10,050'.	18	51	At Kalchi the road crosses to the left bank on bridge of spars; bridge 90' long. Detachment of Kashmír troops. The road to Skardú keeps down the valley; that to Kargil ascends a side valley; track stony, steep, and bad. Track to this has kept down the valley of the Indus, right bank; it is generally a good pack-animal track, 3' to 6' broad. Gradient steep, where it undulates over the spurs of hills reaching to the river, or crosses side ravines. Track in worst order through the cultivation. Rest-house.
4	26th Aug.	LAMA YURU Bar. 19'55". Temp. 80°. Elev. 11,560'.	19	70	An easy gradient to pass. Summit of pass; Barometer 18'3", Temperature 52°, Elev. 13,250'. The undulating descent is easy. Rest-house.

ROUTE NO. 12—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		Details.
			Inter-mediate.	Total.	
5	27th Aug.	KURBU . . . Bar. 19'55". Temp. 70°. Elev. 11,560'.	16	86	Easy gradient to pass. Barometer 18'95", Temperature 53°, Elev. 12,400'. Easy descent. Rest-house.
6	...	SHERGUL . . . Bar. 20'3". Temp. 72°. Elev. 10,560'.	18	104	Undulating track. Rest-house.
...	28th Aug.	PASKYŪM . . . Bar. 21'0". Temp. 70°. Elev. 9,680'.	13½	117½	Easy track, except for the steep descent into the Kargil valley. Shed for shelter.
7	...	KARGIL . . . Bar. 21'65". Temp. 66°. Elev. 8,850'.	6	123½	A road leads to Skardú in three days. Track extremely bad, and undulating. Between Lama Yuru and Tashgam the track is along narrow valleys, separated by easy passes. Cultivation generally fair. Rest-house. All hill-sides barren to this; a treeless, grassless country; oases alone cultivated; these are rich, and grow cereals, fruits, grass, &c., plentifully.
8	29th Aug.	TASHGAM . . . Bar. 21'0". Temp. 70°. Elev. 9,680'.	22	145½	Easy track. Valleys open, and become grassy.
9	...	DRAS; POST OFFICE Bar. 20'7". Elev. 10,050'.	16	161½	Easy track. Good grazing, open valley. Hills now begin to be clothed with grass; later on, shrub and grass grow on their slopes.
10	30th Aug.	NATAIN . . . Bar. 20'25". Temp. 67°. Elev. 10,650'.	14½	176	Rest-house. Easy track to top of Zoji-la pass over a good grazing valley and upland. Top of pass open. Barometer 19'75", Temperature 62°, Elev. 11,300'. Pass over a snow-field, the source of the Scind stream; the final descent into the Scind valley is steep and down a well-wooded hill-side.

ROUTE NO. 12—concluded.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		Details.
			Inter-mediate.	Total.	
11	31st Aug.	BALTAL . . . Bar. 21'1". Temp. 56°. Elev. 9,550'.	18	194	Ruined log huts. Easy track down the Scind valley, often through thick pine woods.
12	...	SONA MERG . . . Small village.	10½	204½	A very difficult track, up the narrow stony valley; <i>should be improved.</i>
13	...	GUGANGEER . . .	9	213½	No supplies; easy track down well-cultivated valley. All river-crossings bridged.
...	1st Sept..	KULAN . . . Bar. 22'75". Temp. 77°. Elev. 7,550'.	4	217½	Good track down valley. Heavy rain.
14	...	GUND . . .	4½	222	Easy track. Heavy rain; in all stages the pack-track is stony in places, in others undulating, with steep slopes.
15	2nd Sept.	KUNGAN . . . Bar. 24". Temp. 58°. Elev. 6,130'.	14	236	Pack-track as above. The Sind valley opens into the Sirinagar valley.
16	...	GANDERBUL . . .	12	248	Easy level track.
17	3rd Sept.	SIRINAGAR . . .	10	258	

ROUTE No. 13.
From Sirinagar to Murree.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		Details.
			Interme- diate.	Total.	
			hrs.	hrs.	
	4th and 5th Sept.	SIRINAGAR	<p>Halt.</p> <p>By water 26 hours; by land 2 stages, easily ridden in one day.</p> <p>The pack-track will soon be converted into an excellent cart-road.</p> <p>Cart-road finished to Kohala and Murree.</p>
1	6th "	DITTO . . .	...	...
2	7th "	BARA MULLA . Bar. 24'75". Temp. 57°. Elev. 5,300'.	26	26	
3	...	RAMPUR . . .	miles. 12	miles. 12	
4	8th Sept.	URI . . . Bar. 25'45". Elev. 4,550'.	12	24	
5	...	CHICKOTA . . .	15	39	
6	10th Sept.	HUTTI . . .	13	52	
7	...	GIRI . . .	10	62	
8	11th Sept.	DUMEL . . . Bar. 27'3". Temp. 63°. Elev. 2,650'.	15	77	
9	...	DULAI . . .	9	86	
10	12th Sept.	KOHALA . . . Bar. 27'7". Temp. 68°. Elev. 2,300'.	12	98	
11	...	DEVIL . . . Bar. 24'6". Temp. 75°. Elev. 5,450'.	10	108	
12	13th Sept.	MURREE . . . Bar. 23'3". Elev. 7,100'.	10	118	

The Russian Empire borders upon that of China from Korea to Western Turkistán; to gauge the possibility of China being able to hold her trans-mural possessions against her land neighbour, a general account is given of the country on either side of the frontier line. (See page 673 and Preface page V.)

A review of the position indicates—

that along the Siberian-Mongolian frontier the advantages of civilization, agriculture, wealth, communications, and of population even, are on the side of Russia. The population in Siberia is continuously increasing in numbers, wealth and civilization, and that of Mongolia as rapidly decreasing in all these elements of strength;

that on the Siberian-Manchurian frontier indifferent communications exist on both sides of it, but that Russia is rapidly improving hers, and, so long as she can trust to a sea-base, has little to fear from the large Chinese and Manchu population of Manchuria. (*See page 692*);

that along the western or Russian Central Asian, Sin-kiang border, all the advantages of communications, wealth, agriculture, transport, supplies, and numbers, are overwhelmingly in favour of Russia.

China's bases in the extreme west are the Ili valley and the line Kashgar, Yaikand, Khotan, a rich strip of country severed by the Tian-shan from the Ili valley, and over which there is no assured communication nearer than the Yulduz valley, or perhaps even Umiotza.

Without good communications with the heart of China, these distant bases are but dissevered, nerveless, and forceless limbs.

It is quite conceivable, because possible, that on a rupture taking place between Russia and China, the former power may possess herself of the Sin-kiang province to Hami and Kobdo; of Mongolia to the true Gobi, *i.e.*, of the whole of northern Mongolia, including Ulyissutai and Kobdo, the territory of the Khalka Mongols, &c.; and of Manchuria to Kirin and Hun-chun, thereby gaining a strong frontier line remedying her present faulty base on the Amur and Ussuri rivers, and gaining throughout a strong position whence to descend simultaneously upon the Wei valley and Peking.

The occupation of the capital and the disseverance of the nerve-centre of China from her tributaries of Korea and Tibet, the results of a second campaign, have to be faced by her, unless she connect her frontiers to China proper by railways and keep up a trained army to defend them.

It is to be borne in mind that Russian military Cossack frontier settlements are a success and a source of great strength, whereas those of China are quite the reverse. (*See pages 658 et seq.*)

I.—Description of country on the Russian side of the border from Manchuria to Western Turkistán.¹

The vast steppe which occupies a large portion of trans Baikal is the heart of the Buriats' country, occupied once by a numerous and war-like tribe. They are now a harmless, peace-loving race; many of them have become agriculturists, and show a marked capacity for industrial pursuits. They possess large herds of sheep, horned cattle, and horses, some chiefs possessing as many as 40,000 sheep, 10,000 horses, and 3,000 horned cattle, besides a large property in furs.

In 1876 they numbered 260,000, the largest of the native populations of eastern Siberia. They profess Shamanism, Buddhism, and Christianity. The Lamas compose one-fifth or one-sixth of the population.

The trans-Baikal province covers 240,000 square miles, with a population of 430,000, of whom only 4 per cent. live in towns; nearly half the population are natives. Chita, its capital, founded in 1851, has a population of 3,000. Its southern hills are rounded and well wooded. On both sides of the Yablonoï range are grown wheat, rye, oats, hemp, flax, potatoes, cabbage, turnips, lettuce, radishes, onions, spinach, &c.; grass is abundant in the valleys.

About Nertchinsk both agriculture and horticulture are carried on successfully, and vegetables of almost every kind can be grown; tobacco is extensively cultivated. The summers are short, but hot; the climate is healthy, and the rapidity of vegetation extraordinary, for both corn and vegetables ripen within the five weeks in which the frosts cease,—*i.e.*, from the middle of June to the end of July. The winters are severe, but bracing and healthy.

Nertchinsk was founded in 1658; elevation 1,845' above sea-level; it occupies a picturesque situation in a rich district; there is much mineral wealth in its vicinity.

Streitinsk is a good-sized town; the journey to Chita can be made by water, as well as by land.

Irkutsk, capital of the Government of that name, was founded in 1680, and had a population of 33,000 in 1879. The province has an area of 270,000 square miles. The surface is mountainous, and through it flow two rivers of importance. It has a population of 385,000, of whom only 10 per cent. are dwellers in towns. Of the population, 116,000 are natives and 116,000 are Buriats; 319,000 are Christians, 66,000 profess Shamanism, and 12,000 Lamanism. Agriculture is prosperously conducted, rye and barley being the chief crops. The pastures support large numbers of cattle and sheep. There is a large gold-mining industry in the province; the town is 1,536' above the sea, and has a climate

¹ For description of Manchuria, see page 692.—Authorities: *Encyclopædia Britannica*; *Lansdell*; *Temple*; &c.

which even in winter is well spoken of; its summers are short and warm. The snowfall is not excessive. Its markets are well supplied. Beef is abundant and good, and costs 2*d.* a *lb.* Pork, veal, mutton, game, and fish are plentiful and cheap, especially in winter; luxuries, from beyond the Urals, are expensive. It is the greatest centre of population and principal commercial depôt to the north of Tashkent, 3,780 miles from St. Petersburg.

Kiakhta is well supplied, and elevated about 2,500' above the sea.

Kiakhta. In February the thermometer stands at 42° below zero; the greatest heat in August is 100°; the distance to Peking is 1,000 miles; camel and bullock caravans usually traverse it, the former taking 30 days as a minimum time; camel and bullock carts are in use.

The Yeneseisk province, which is conterminous with the Chinese Mongolian frontier of Uliassutai, to the westward of Irkutsk, extends from the Altai mountains to the Arctic Ocean. The province is covered with magnificent forests, chiefly pine; its southern portion is described as the Italy of Siberia; it only is mountainous. Its total population in 1880 was 372,000; its Russian population, of some 250,000, are chiefly settled in towns and villages along the river, and the great high-road crossing it from Krasnoïarsk to Irkutsk. Most of the corn is grown about Minusinsk, where it is fabulously cheap, and whence it is exported by river. Agriculture extends along the river to Yeneseisk, a town of 7,000 inhabitants, founded in 1618. Tartar aborigines occupy the south of the province, most of whom are Christians. Krasnoïarsk has a population of 13,000.

Grains are grown in the valleys to the south and in the centre of the province; there is good pasture land, upon which large herds of cattle are kept

In Lansdell's "Through Siberia" and in "Intelligence Branch, Horse Guards, Account of the Amur Provinces," will be found short accounts of the Russian progress in Siberia and of treaties between the Russians and the Chinese.

The province of Tomsk enjoys a good climate; its land is valuable for agricultural purposes, while the mountainous districts are exceedingly rich in minerals; it contains 840,000 inhabitants; the mixed races, chiefly Tartars, Telenti, and Altai Kalmuks, number 130,000; its area is about 500,000 square miles. Tomsk city has a population of 30,000.

All Siberian roads are unmetalled, at seasons muddy and heavy; in the Yeneseisk province they are good and well kept; the Irkutsk ways deteriorate, and those beyond Baikal are worse than all.

The summer climate is delightful; snow falls in May.

Between Tomsk and Barnaul the landscape is undulating. In its southern portion abundant crops are raised.

The entire Altai system extends in a serpentine line, and under various names, from the Irtysh to Behring Strait.

The Altai range. The breadth of the chain varies from 400 to

1,000 miles. Its entire length is about 4,500 miles, but it is only to the portion west of Lake Baikal that the term Altai is applied. This part consists of a succession of terraces, with swelling outline, descending in steps from the high table-land and terminating in promontories on the Siberian plains. On these terraces (some of them at great height) are numerous lakes. The ordinary table-lands are given as not more than 6,000 feet high, and as seldom covered with perpetual snow, though it is otherwise with the Korgan table-land, which reaches 9,900 feet, and the two pillars of Katunya, which are said to attain to nearly 13,000 feet above the sea-level. At the western extremity of the chain are metalliferous veins, in which several important workings have been established since 1872.

Its chief inhabitants about the Chinese frontier are Kalmuks governed by native chiefs, and little interfered with by their Russian governors. The great bulk are pagans.

The Suok pass is a well-frequented one, leading from Mongolia into Siberia.

The grass between Tomsk and Barnaul is remarkable, and further south becomes more luxuriant. Barnaul, the chief town in the Altai highlands, has 13,000 inhabitants. Mines of copper, silver, iron, and lead exist in the vicinity. The prices of provisions are very cheap. The soil is rich and produces large crops; black rye flour costs $\frac{1}{4}d.$ the lb ; wheat flour 2s. per cwt.; Beef costs $1\frac{1}{4}d.$ per lb in summer and $\frac{1}{2}d.$ per lb in winter.

To the southward lies the Kirghiz road leading through the Baraba steppe south to Kolan and by Smeinogorsk to Ust-Kamenogorsk over a cultivated hilly district.

Tomsk is on the borders of western Siberia, and here eastern Siberia commences. The course of the Yenisei marks the boundary line. Of the total area of Siberia, 4,750,000 square miles, about one-fifth is arable. The means of communication through it by river and road are ample.

When Tiumen is reached, river communication becomes possible with each of the four capitals of western Siberia.

Again, the Amur presents a water passage inland from the Pacific, by which Nikolaefsk, Blagovestchensk, and almost Chita may be reached. Russia has also for the commerce of Siberia three additional outlets—the Obi, the Yenesei, and the Lena—to both Europe and Japan.

Again, there is the communication by roads, which is the more important on account of the many months the rivers are frozen over. There are two post-roads by which Siberia is entered from the west; one through Orenburg, which is little used, and the other through Ekaterineburg to Tiumen. There is also a third road, not much used, which crosses the Urals further north, and connects Velaki Ustiug, on the northern Dwina, with Irbit. The high-road to China leaves Tiumen in an easterly direction to Omsk, where the routes from

Orenburg, Semipolatinsk, and Central Asia converge. The main road goes east to Tomsk, where it is joined by roads on the north from Naryn, and on the south from Barnaul; it then continues eastward to Krasnoiarsk, where it is joined by roads on the north from Yeneseisk, and on the south from Minusinsk. After this it takes a south-easterly direction to Irkutsk, whence there go two ways, one to the north-east to Yakutsk, and so on to Kamschatka; the other and principal one, to the south-east and round the base of Lake Baikal to Verchne Udinsk. Here it divides into two, that to the right leading to Kiakhta and China; that to the left running east, through Chita to Stretinsk. Thence the traveller proceeds on the Shilka and Amur—by boat in summer, and on the ice in winter—past Blagovestchensk to Khabarovka, whence to the left he continues on the Amur to Nikolaefsk, or he turns to the right up the Ussuri and the Sungacha to Vladivostock. Along all these roads there is postal and, except towards Yakutsk, telegraphic communication also.

An ethnographical map of Siberia coloured according to the area which is occupied by its various nationalities, reveals the fact that only a very small portion of the country is inhabited by Russians.¹ In fact, a narrow strip of country suffices to show their habitat, if drawn on either side of the great land and water highways, and somewhat widened in the mining districts of the Yeneseisk and Tomsk Governments; and, as the aborigines do not generally follow agriculture, it will be inferred that those parts of the land which are under cultivation lie within this narrow strip. The same observation will also indicate that whilst the language of the towns and the highways is Russian, a knowledge of other tongues is needed for extensive intercourse with the natives.

Siberia is for the most part a low-lying diluvial plain, with an undulating or hilly surface, extending eastwards from the Ural Mountains; its chief inhabitants are nomadic Mongols, of a peaceful character. The whole of the native inhabitants of Siberia scarcely number 750,000, and the country belongs to the Russians in the same sense that Australia has become a new home for the English race; and the broad zone from Tomsk along the main lines of communication eastwards is occupied by Russians, as well as along those running north and south, the great river-courses, &c. Eventually all the broad lands available for cultivation will be occupied by the Slav race, leaving only the distinctly steppe region in the hands of the natives, chiefly nomads. None of the natives have any vitality, except those of the Lena basin (Yakuts) and the Kirghiz of western Siberia; they are chiefly of the Mongol-Tartar family. The Yakuts are an extremely hardy and industrious race, skilful artizans, agriculturists, and traders; they have quadrupled their numbers within the past 80 years, and are nominal Christians.

¹ The total population, Russian and aboriginal, according to the Journal de St. Petersburg, August 7th, 1881, quoting the most recent statistics, numbers 1,388,000 souls; but I am not sure whether "souls" may not mean males only, as it sometimes does in Russia. They are divided among the provinces as follows: Tobolsk 463,000; Tomsk 324,000; Irkutsk 165,000; Yeneseisk 164,000; Trans-Baikal 141,000; Amur 3,000; Sea Coast 13,000; and Yakutsk 112,000. This says nothing of Akmolinsk and Semipolatinsk.—(*Lansdell*.)

The following gives an approximate estimate of the population of Siberia (*Asia ; by Temple*) :—

Mongolian stock—	
Kalmuks (Buddhists and Shamanists)	. . . 25,000
Buriats („ and Christians)	. . . 250,000
Manchu stock—	
Tunguses (Shamanists and Christians)	. . . 80,000
Finnic stock („ „)	. . . 85,000
Turki stock—	
Yakuts (Christians and Shamanists)	. . . 200,000
Others . . . . .	. . . 80,000
Sub-Arctic races . . . . .	. . . 30,000
Slav stock—	
Russians and Poles . . . . .	. 4,500,000
Chinese, Manchus, &c. . . . .	. 20,000
	5,270,000
	Population.
Eastern Siberia bordering Chinese Empire—	
Yeniseisk . . . . .	. 400,000
Irkutsk . . . . .	. 360,000
Trans-Baikalia . . . . .	. 430,000
Amur . . . . .	. 29,000
Usuri . . . . .	. 51,000
West Siberia—	
Tomsk . . . . .	. 839,000

To the north-west and west of the Sin-kiang Province lies Russian Central Asia, the Tzar's dominions lying between the Oxus or Amu-daria and the İrtish, with a population of 4 millions of souls, spread over 795,000 square miles, or 5 to the square mile.

For administrative purposes it is divided into the governments, or vice-royalties, of Turkistán and the Steppe, the former to the west, the latter to the north-west of Sin-kiang.

THE STEPPE GOVERNMENT.

The Steppe comprises the Provinces of Akmolinsk, with an area of 213,500 square miles and a population of 460,000, or 2.1 to the square mile; Semipolatinsk, with an area of 190,500 square miles and a population of 539,000, or 2.8 per square mile; Semirechia, with an area of 134,500 square miles and a population of 552,000, or 4.1 per square mile; a total area of 538,500 square miles and a total population of 1,551,000, or 3 to the square mile.

The Steppe plains (elevation 1,000 feet) are traversed from east to west by the Chingiz-Tau and the Suk-bash-Tau mountains, a continuation of the Tarbagatai mountains. They rise to an elevation of 5,000'. To the south of them is the basin of the Balkhash lake and valley of the Ili, elevated 1,000'. These plains at Kopal and Vierny, or Vernoe, abut on the Ala-Tau mountains.

In the climate of the Steppe is experienced every degree of temperature between -52°, the greatest cold in February in the north (Omsk), and 99.5° in summer in the south (Vierny).

¹ Lansdell, &c.

The steppe surface consists mainly of mountains, deserts, and steppes. In the north the steppes afford abundant pasturage for cattle; to the west and south of the Balkhash are a few patches of sandy desert, and in the south and south-east are the mountains. For the most part the territory is poorly wooded. A narrow belt of deciduous trees, about 70 miles in width, stretches across the country west of Omsk, and there is a small area of the like character about the town of Akmolinsk. About the towns of Semipolatsinsk and Petropavlovsk are forests of conifers; generally speaking, the northern part of the government is bare of trees; the total forest area of Akmolinsk is 318,500 square miles, and of Semipolatsinsk 400,000 square miles. About Omsk rye bread is eaten, and about Vierny wheaten bread.

In the vice-royalty are a comparatively small number of Russian soldiers, Cossacks, and colonists in the towns and along the principal highways; all over the province are the nomad Kara-Kirghese in the mountains and Kazaks in the plains.

The Irtysh is navigable for steamers in spring. A post carriage-road and telegraph run from Orenburg to Omsk, Semipolatsinsk, Sergiopol, Kopal, Vierny, and into Turkistán. This main road is joined on the east and south by five carriage-roads from Ust-Kamenogorst, Marlady, Sepsinsk, Kuldja, and Lake Issik-Kul, and to the west by one towards the Orenburg road at Petropavlovsk from Pavlodar. This road probably stops short at Karkaraly (220 miles). Caravan routes are numerous.

The climate of the Akmolinsk province is decidedly cold; the ice at Omsk breaks up towards the middle of April and re-forms towards the end of October. At Omsk the minimum in December may be -40° , and the maximum in July 102° .

In the province there are 120,000 settlers and 340,000 nomads, occupying 11,000 and 200,000 square miles respectively. Rye, wheat, oats, barley, buckwheat, a few other kinds of corn and potatoes are cultivated. The grain harvest is about five-fold, but insufficient to supply the Russian population alone of the province. The neighbouring provinces of Tobolsk and Tomsk export to it. As a preventive against famine the Crown provides store-houses of corn for the nomads.

The province is rich in domestic animals, horses, horned cattle, camels, &c. To every 100 of the settled population there are 41 horses, 46 horned cattle, 62 sheep; and to every 100 of the nomads, 208 horses, 57 horned cattle, 28 camels, 372 sheep.

All the towns of the government, except Omsk and Kokchetovsk, are on the banks of the Ishim. Akmolinsk (chiefly Kirghiz), elevation 1,000', has a population of 6,000; Petropavlovsk of 12,000; several other towns have about 1,000 each. They are the market towns for the nomads.

The houses of the Russians are built of logs, quickly put up.

The industries consist of factories for the preparation of vodka, grinding and preparing flour, bricks, leather, glue, oil, soap, copper, sheep-skins, wool, beer and mead, wax and tallow candles and melting tallow.

Omsk, at the junction of the Om and Irtysh, is a town of 31,000 inhabitants in the strip of Russian colonization that divides the Kirghiz of the south from the Tatars of the north.

The main traffic from Europe to China now passes to the north of Omsk; this, and the conversion of the Obi into a summer route, have diverted the traffic from it. Its importance is on the wane.

From Omsk to Semipolatsinsk is a journey of 500 miles, divided into 31 postal stages. The road follows the river; banks of sand; fish plentiful.

Much steppe is crossed; the country is nearly treeless, and the ground almost without vegetation. In spring, verdure is found in patches growing in separate clumps, thickets of *spiræa*, or meadow-sweet, cover the steppe for great distances. Vegetation follows the course of the Irtysh. Numerous ponds and lakes, unconnected by streams, occur; some are filled with sweet, others with brackish water. Its soil is yielding, stoneless, and sandy, making the smoothest of roads. Sandy downs occur. After the 19th station isolated stones are visible, and about the 26th rock deposits occur. Here vegetation is more general, and pines, &c., become numerous.

The distance of 482 miles can be posted in four days at a cost of £6.

The Cossack population of the provinces of Akmolinsk and Semipolatsinsk in 1879 was located in 149 settlements and made up of 88,000 combatants and 99,000 other persons; about 25,000 combatants and 28,000 others occupied the Irtysh line. Russia has by this means colonised a fruitful terrain, and planted a succession of villages, the male inhabitants of which are bound to serve in war. They are instructed by instructors from Omsk. They receive from Government a nominal pay, a grant of 100 acres of land, and are exempt from taxation. They receive also weapons and munitions. They find their own horses, uniform, houses. The keep of a horse costs 8s. to 10s. a month.

About Biisk are 30 Cossack settlements, and those of western Siberia are made up of 95,000 combatants and 108,000 others (1879).

Pavlodar, the 18th station from Omsk, is also reached by water, which in August is too low to allow of the steamer proceeding to Semipolatsinsk. Several mines of coal, silver, copper and iron exist in the neighbourhood.

Reliefs for Turkistán from western Siberia take the river route from Tiumen to Pavlodar, and thence march. The average height of these men is 5'5½", and average chest measurement 34¼".

To the north the province is a low flat steppe, without any marked watersheds; towards the Altai range hillocks are met with, and the soil becomes more rocky. Both stretches of grass and saline patches occur. The Tarbagatai is the chief mountain range, a mass about equal to the Pyrenees in length and height, rising in a space about 250 miles wide, and separating the massive Tian-shan from the western Altai.

The mountains of Tarbagam, or "marmot," consist of three branches: one running west by north, called the Djenghis-Tau, with an average height of 4,000

Province of Semipolatsinsk.

The Tarbagatai.

feet; the north-east branch separating the upper and lower Irtish valleys, with an average height also of 4,000 feet; and the south branch, with an average of 6,000 feet. In this last branch are found the highest peaks of the whole range, those of the Muz-Tau, or "ice mountain," 11,000 feet high, and the Saur (Sur), both being snow-capped. The line of perpetual snow on the Tarbagatai is 9,000 feet, and on the Saur 10,700 feet. The southern branch of the Tarbagatai is clothed with forests of furs and poplars, and below the forest zone glaciers, in several places, extend into the valleys. (*See page 417.*)

The greatest gaps in the mountains are: the valley of the Kára Irtish, where it enters the Zaisan, at an elevation of about 1,400 feet; the valley of the Irtish proper above the town of Ust-Kamenogorsk, about 1,300 feet; and that of the Urzabai at about the like elevation. Besides these wide depressions, showing by heaps of stones, such as are seen in moraines, that glaciers have existed, there are several defiles and passes, to the number of 14 in all, by which the Tarbagatai is crossed. That of the Chagan-Obo, south of the Saur, 6,000 feet high; Burga-Satai, at the east end of the range, 4,670 feet; Khabar-Assu, in the middle of the range, 3,750 feet; Alet, at the west of the range, 5,850 feet; and that of Sergiopol, crossed by the post-road, 1,210 feet.

As stated, the Irtish is navigable all the year round to Pavlodar; it is lowest in summer, and can then be forded at Semipolatinsk. In the spring steamers, can ascend to Ak-tube, to the east of Lake Zaisan. At Zaisan the river opens in April, and closes towards the end of October; at Semipolatinsk a few days earlier and later, and at Omsk about the end of April and October respectively.

Nur Zaisan lies in the midst of a vast steppe; it abounds in fish; there are few habitations on its banks. In the vicinity alum, salt-petre, petroleum, naphtha, mica, &c., are found.

The forests of the province occupy about 4,000 square miles.

The towns of the four Uyezds, into which the province is divided, are, with one exception, on the banks of the Irtish or its affluents. The four Uyezds and one sub-district are said to be peopled as follows, but the totals, in every case but one, are wrongly calculated:

		Kirghese.	Cossacks.	Peasants.	Soldiers.	TOTAL.
Semipolatinsk		115,938	6,030	2,739	...	125,069
Pavlodar		105,707	6,228	...	...	112,360
Ust-Kamenogorsk		64,055	5,751	...	232	70,349
Karkaralinsk		123,571	...	...	...	123,571
Zaisan Station		71,683	707	...	...	72,417
	Burgesses.					
Towns of—						
Semipolatinsk	4,735	6,936	...	1,184	2,932	17,817
Pavlodar	967	...	616	...	356	2,263
Ust-Kamenogorsk	2,439	...	607	...	1,348	5,428
Karkarali . . . . .	...	896	397	...	178	2,027
Zaisan Post	159	...	707	150	2,427	3,766
Kokpeti	821	...	1,867	...	330	3,247

The chief races inhabiting the province are Tatars, on the right bank of the Irtysh, north of Semipolatinsk; Kirghese on the left bank, and to the south-west of that river, and along the banks of the water-courses; and between Semipolatinsk and the Altai, Russians; the average number of persons of both sexes in 1879 being $2\frac{3}{4}$ to the square mile.

About Orenburg the 50th parallel of N. Latitude is the southern limit of agriculture without irrigation. To the east this limit is the 53rd parallel. Agriculture constitutes the chief pursuit of the settled rural population of the districts of Ust-Kamenogorsk, Zaisan, and parts east of the capital, but in the remainder of the province it is little developed. The corn raised is almost entirely for home use. The yield of grains is under five-fold.

In the neighbourhood of Biisk and Barnaul the peasants can easily grow in a year five times as much corn as they can eat; this supply and the reserves of the Tomsk district amply meet any deficiency caused by bad harvests in the Semipolatinsk province. The Cossacks' wives are great gardeners. They grow tobacco, water and other melons, and hemp.

Cattle-breeding constitutes the chief means of subsistence, not only of the nomads (who form more than 89 per cent. of the population), but also of a certain portion of the settled inhabitants of the province, especially about Karkarali and Pavlodar, where, to a great extent, the climate and soil are unsuitable for agriculture. No attempt is made to improve the breed of the Steppe cattle, the settlers conducting their operations partly on the Kirghese system, with this difference, that instead of sheep, which constitute the first article of Kirghese management, their attention is chiefly devoted to horned cattle, though making less of milk produce than the nomads. According to official information the number of beasts in the province in 1880 amounted in all to 3,081,082.

	Camels.	Horses.	Horned cattle.	Sheep.	Goats.	Pigs.
Settlers	325	48,240	29,455	38,703	5,099	510
Nomads	69,277	463,149	202,437	2,223,887		

But only in regard to the herds of the settled population are these data even approximately correct.

A more correct estimate is given below :—

	Cossacks and Peasants.	Kirghese.
Camels	80	104,680
Horses	36,084	1,101,600
Horned cattle	24,856	483,600
Sheep	32,591	} 5,529,000
Goats	3,747	
Swine	356	...
Number of families (or tents) . . .	5,095	110,616
Large beasts to a family	12	14 $\frac{1}{3}$
Small	7	50

The industries of tanning, fur-dressing, stearine, soap-boiling, soda, copper-smelting, and gold-washing have not thrived, notwithstanding the abundance of live stock, glauberite, copper mines, common salt, &c., in the province.

Of the population 92·2 per cent. are Muhammadans, and nearly all the remainder of the Russian orthodox church; 90·9 per cent. are Kirghese; 4·31 per cent. Cossacks; 1·85 per cent. Russian bourgeois. Of the Kirghese little over one third are pure nomads, having no other dwelling than their tents, whereas the remainder do not wander from their fixed quarters in winter. The remaining 57,500, or 10·7 per cent., constitute the settled population, of whom 34,600 (including 8,000 Kirghese) live in towns and 22,900 in rural districts. The total number of Kirghese is probably underrated; their kibitkas number 110,700, at an average of 5 to 6 souls per kibitka.

Military service is not imposed on the Kirghese; they have instead to keep the roads in order, &c., to furnish supplies, tents, &c., to troops moving.

The Cossacks pay no taxes, but in lieu undertake military and other kinds of service (furnishing carts, road-mending, &c.) on special conditions. They are drafted for active service and for the militia of the province.

In the seventeenth century the Russians then established in Omsk, Tomsk, &c., came in contact with the Mongol tribes, or Durben-Oirat established in Zungaria since the fifteenth century. These people subdued many petty princes from the Altai to the Balkhash, and exacted tribute from eastern Turkistán, Samarkand, Bukhára, and even Balkh. Frontier struggles caused the Russians to occupy the upper Irtish with the idea of continuing a line of forts through Zungaria to Yarkand, where gold was said to be found.

In 1720 Ust-Kamenogorsk was built after the return of an expedition of 34 flat-bottomed boats and 440 soldiers beyond Lake Zaisan.

In the middle of the 18th century the Chinese became masters of Zungaria, and, bent upon getting rid of the troublesome Kalmuks, carried out an indiscriminate slaughter, few of its 600,000 souls being spared. (*See page 376.*) In 1760 the Russians erected Fort Bukhtarmish, and in 1822 the Cossack fisheries were extended to the Zaisan, and subsequently established to the exclusion of all others.

The Russians and Chinese were henceforth neighbours. To facilitate trade, Russian caravans were allowed to proceed to Kuldja and Chuguchak. By the treaty of 1851 Russian consuls were permitted to reside at the factories established at these places.

It is estimated that 4,000 to 5,000 Taranchis and Kashgarians repair yearly as summer workmen into Semirechia.

The average winter temperature of Semipolatsinsk is $-7\cdot5^{\circ}$; spring temperature $34\cdot1^{\circ}$; summer?; autumn 37° . The summer heat rises to 99° , and the thermometer sinks in winter to -57° . The rainfall for the Arctic Ocean river systems is about 8" annually. On the Irtish it is about 5·6" annually.

The Russian and Tatar merchants sell in the bazárs tea, sugar, groceries, cotton stuffs, Chinese silks, porcelain, furs, wax, and honey. The principal trade is carried on in the winter, when the Cossacks and

peasants come in from the neighbouring districts, bringing skins, ropes, and other produce. The Kirghese also, some on horseback and others in camel-carts, bring cattle and camels' hair, which they dispose of, and purchase grain, flour, tobacco, ironware, and wooden boxes. From Semipolatsinsk, elevation 750', situated in a sandy desert on the lofty right bank of the Irtysh, it is 160 miles, or 11 post stations, to Sergiopol. The road passes through long stretches of barren country, occupied by a few Kirghese auls. The watershed of the Chingiz-Tau, the western spur of the Tarbagatai, is crossed at an elevation of 2,133'.

Sergiopol, on the banks of the Ayaguz and surrounded by sancs, was occupied by the Russians in 1831, since which date, the frontier having advanced southwards, the place has declined in importance. It has 1,000 inhabitants.

Several mineral deposits exist within 120 miles of it, *i.e.*, silver and lead near Chuguchak; graphite, oil, copper (Tarbagatai slopes), &c.

In the spring (April) the roads are impassable.

To Bakhta, the Russian frontier town opposite Chuguchak, is 174 miles by post-road.

The Semirechinsk Province in the part towards the west consists of tracts of shifting sands and salt plains, but in the east are rich mountain valleys, with fertile black earth and mountain gorges lying deep in forest recesses. In the south the Tian-shan contain some of the most gigantic mountains in the world. Contiguous to the mountain region is a narrow strip of clayey soil that, when well watered, is unusually fertile. Beyond this, stretching out into the plains, is the limitless, almost fruitless, and sometimes sandy steppe.

From Altyn-Immel the post road to Kuldja branches off, ascending to the Yakshi-Altyn-Immel pass (5,500').

From the Kuldja side 6 horses are required to drag the tarantass up the steep incline. The length of the gorge is 4 miles, the road passing through clefts in the overhanging rocks. This is one of the accessible depressions by which the great plateau of Central Asia may be reached from the Turkistán plains. (*See pages 364, 371.*) Hence the Kuldja oasis has served as a resting-place for the vast hordes whose migrations, conquests, and defeats have formed so important a chapter in the history of Asia.

The Ili valley is a continuation of the Semirechia country running east in the shape of a wedge between the Ala-Tau and the Tian-shan mountains, the base of the triangle being open to the steppe, whilst the apex, where the Ili has its sources, is closed by lofty mountains. The eastern portion of the valley, which, together with the Baratol valley, constituted at first under the Russians the Kuldja rayon, or province, occupies an area of 25,000 square miles, or half the size of England, and is bisected by the River Ili, formed by the Kunges, Tekes, and Kash, and having a course of not less than 750 miles. The mountain range, known as the Borokhoro, on the north of the valley, does not exceed 9,000 or 10,000' in height, but the southern range rises to an absolute altitude of 15,000', covered with a dazzling, continuous mantle of snow, the sky-line being broken by an endless succession of giant peaks, some of them upwards of 20,000 feet above the level of the sea.

The stations between Altyn-Immell and Kuldja, with number of versts between, are—

Altyn Immell.		Khorgos	22
Bash-chi	28	Alimptu	15
Aina-Bulak	25	Chinchakhodzi	20
Konwi-Ulen	21	Suidun	18
Koibyn	25	Langar (Baiandai)	18
Borokhudzir	25	Kuldja	23
Ak-Kend	28		
			268

The first station, Bash-chi, is 2,000' below the pass. The road is both fair and stony. From Koibyn (60 miles) a mountain gorge is ascended. Kirghese auls are fairly numerous in the district. Borokhudzir, 3,000', is surrounded by woods, full of game (partridge, pheasants, hares and deer). This is the Russian frontier station, with a defensible barrack of four long buildings in the form of a square. There is here a peasant colony from the Tomsk province of Siberia; vines thrive; fruit is abundant (pears, apples, walnuts, peaches). The karagatch, acacia, and poplar grow well. Vegetables grow well and cotton is here successfully cultivated. The soil of the valley is clay. The long, dry, hot summer, and the short, snowless winter, fairly suit cotton culture.¹

"From Borokhudzir," writes Mr. Lansdell, "we drove out by the wide street, fringed with canals and willows, very early in the morning; and having crossed the river that gives its name to the village, we traversed a vastly improved region, where on either hand there met us tokens of culture, in the form of well-arranged canals, but all in ruins, and the land overgrown with weeds. The road entered the remains of a considerable forest of prickly shrubs, pines, willows, and karagatch trees, said to have extended in former times as a cultivated forest nearly all the way to Kuldja. Chinese settlements were scattered

¹ The soil is prepared as for sowing corn, the ploughed land being formed into regular beds, not more than 7 feet square, and surrounded by small clay dykes to preserve the seed from the dampness of the canals. The beds are then inundated from the arysks, and remain so for about three days. When the surface is quite dry, little furrows are made in the beds with the finger; into these the seed is dropped and lightly covered with earth. Two weeks after sowing, the plants come up, and, if not frost-bitten, the stems grow rapidly to the height of 2 feet. A rainy summer, or immoderate watering, spoils the cotton; in the middle of August germinal pods appear and subsequently increase to the size of a walnut. The shell hardens, and at the beginning of October bursts, when through the fissures may be seen the white fibres of cotton; this at length hangs out of the pod and is then ready to be gathered. Cotton culture in weeding time and harvest requires despatch, and, consequently, the employment of many hands. The cotton is freed from the pods and seeds by the clumsiest of contrivances, such as tax the patience even of a Chinaman; and the preparation of thread, and weaving it, is carried on by machines equally primitive. Comparing the lengths of three kinds of cotton grown in the Borokhudzir valley, it was found that the "Tashkend" measured 3½ inches; the "American" upwards to 7 inches, but that Chinese cotton of the "Tashkend" sort was shorter. The Chinese cultivate cotton as an accessory to corn-growing, but seek to produce only so much as will supply the family with clothing, and not for export, like tea. This remark, however, would not apply to the natives of Samarkand, where cotton is grown under more favourable conditions. In a paper transmitted to the American Geographical Society of New York in 1875, by M. Brodowsky, on the cotton of Central Asia, the author states that, in 1868, Russia manufactured £12,167,400 worth of cotton; that she consumes yearly 48,000 tons of raw cotton, and more than £450,000 worth of English yarn; that of this quantity 9,600 tons (or one-fifth of the whole) came from Central Asia, and 3,200 tons from Persia. The rest is bought in Liverpool, 2,000 tons being of American and 16,000 tons of East Indian growth.

throughout, and the ruins of them are still visible, but the trees, no longer cared for or irrigated, are fast dying. Nine miles from Borokhudzir we crossed the River Usek, on whose bank (*jar*) are situated the ruins of Jarkend. The remnant of a people called Solons live near,

Solons.

a section of the Manchu, living in north-western Manchuria, and forming some of the most warlike of the bannermen. They were planted largely by the Manchus in Zungaria when they conquered it. At Jarkend they live in scattered mud houses in winter, and in summer pitch their tents on the river banks; but they are few in number, some having removed to the neighbourhood of Chuguchak, and others having become Christians and settled at Sarkansk. The place, however, is likely to regain importance from the Taranchi and Dungan emigrants, who have settled there in order to be under Russian Government, in preference to staying in Kuldja under the Chinese. In the Usek our carriage stuck fast for about an hour, till some Cossacks came to the rescue and got us out."

Ak-kend was a once flourishing, but now ruined, Chinese town. Beyond it the River Khorgos, the boundary line of the Russian and Chinese Empires, is crossed. In the spring it is sometimes impassable for weeks.

Tchimpantzi was once a flourishing industrial and commercial centre, with 50,000 inhabitants, now a ruin, with its surrounding fields lying waste.

Further, as the Taranchi village of Mazar and the Solon village of Dabir, is passed, the road runs past ruined towns and desolate fields, with fine views of the snowy mountains on either hand.

Coal is worked in the valley and costs about $\frac{3}{4}d.$ per cwt. at the pit's mouth. To extract it, vertical and inclined

Ili valley.

shafts are sunk; about 13,000 tons were, previous to 1873, raised about Kuldja. Iron is also smelted in the valley, but is of bad quality; copper-smelting is also carried on to a small extent. Chinchakhodzi is a Tungan walled town, amidst cultivated fields.

A cart-road leads to Lake Sairam, 30 miles distant, elevation 6,000', above the southern shores of which is the Talki pass. The road in some places passes over steep declivities, and in others upon cornices, hanging over precipitous cliffs. As the ascent is made, the apricot, dwarf elm, and apple, give place to hawthorn, mountain ash, and willow, and higher still grows the birch and red fir. Towards the top the slope is rocky and bare. When the crest is reached, the lake is skirted. (*See page 364.*)

Passing Suidun, Ili (New Kuldja and Manchu Kuldja), and many ruins (Baiandai, once of 150,000 inhabitants, &c.), Kuldja is reached Road bad.

In the valley wheat, barley, peas, Indian corn, pumpkins, carrots, turnips, radishes, beet, cabbage, and garlic are grown.

The following routes, connected with the Kuldja valley, are described by Kostenko in his "Turkistán Region," *viz.*:—

Kuldja *viá* Talka, western shores of Lake Sairam to the Lepsa Station.—Route No. 174.

Kuldja *viá* the Borogosun pass to Jin-kho.—Route No. 176.

„ *viá* Pelichan pass.—Route No. 177.

„ *viá* Talkà pass and Kaptagai gorge to Chindal picket.—Route No. 178.

Lake Sairam (Ak-Task picket) *viá* Takianza and Takelgen to Chindal picket.—Route No. 179.

Chindal picket, north shore of Ebi-nor lake and Shikho to Kur Kara Usu.—Route No. 180.

Routes along the Kash valley.—Route No. 186.

Lepsa station *viá* the Jan-Asu defile and the Amati picket to Manás. Route No. 286.

Chuguchák to Shikho.—Route No. 190.

Barskun river defile towards Uch-Turfán.—Route No. 191.

Sufi-Kurgán to Irkeshtám.—Route No. 193.

For ethnographical data: Race composition of the population of Turkistán—Table showing the numerical strength of the several tribes—Division of the inhabitants in point of creeds and professions—Births and deaths—Rate of natural increase of the population = 0.3 per cent.—Annual increase of the population—The nomads in proportion to the sedentary inhabitants, &c.: see Kostenko's "Turkistán Region."

In section II, chapter I, Kostenko gives full ethnological data regarding the population of Turkistán.

The people of the Russian Turkistán district come under two heads—the Caucasian or white race, and the Mongol or yellow (copper-coloured) race.

The first of these has two branches—the Arian or Indo-European, and the Semitic, to which belong the small number of Jews and Arabs who have settled in the country. To the Arian branch belong the Russians and the Iranians, of whom there are two branches, *viz.*, the Iranians of the upper Oxus, the Tajiks, or the descendents of the aborigines, of Bactriana, trans-Oxus, and Sogdiana; and the Iranian proper, *viz.*, the Persians and the Afgháns, the Hindus and the Gypsies. The Mongol race, in its turn, is divided into two branches—the Altai people, Turko-Tatar; and the pure Mongols. To the first of these belong the Kirghiz (Kazaks), the Kara-Kirghiz, the Uzbegs, the Kara-Kalpaks, the Kipchaks, the Turkmáns, and the Tartars. To the second belong the Kalmuks, Chinese, Sibos, Soloni, and others. The Sarts, the Taranchis, and the Kuramese are a mixture of several races, and since both the Sarts and Taranchis in type and language are more closely connected with the Uzbegs, whilst the Kuramese more resemble the Kirghiz, the Sarts, Taranchis, and Kuramese may, without any great error, be numbered amongst the Turko-Tatar races. With regard to the Dungans, it may be said that they serve to connect the Turkish races with the Mongol. But since in type they more closely resemble the Turks, it would be more correct to classify them as such. By far the greater portion of the population of Turkistán belongs to the Turko-Tatar branch, and of this branch the Kirghiz are the most numerous; then come the Sarts.

Kostenko gives a table of statistics and particulars under headings below :—

Russians, Tatars, Sarts, Tajiks, Uzbeks, Kara-Kalpaks, Kipchaks, Turkmáns.

Further, notes are given under headings below :—

Kirghiz. Kuramese. Sympathetic nature. Kalmuks. Mongol-Manjus. Persians. Natives of India. Gypsies. Jews. Arabs. Classification of the population according to creeds. Russian trading population. Term—"Native population." Preponderance of males over females. Same peculiarity amongst the natives. Progress of the population. Population statistics of Russian Turkistán and European Russia similar. High rate of mortality amongst Kirgis and Sart women. Its probable causes. Table showing increase of population from 1867 to 1877. Results gained.

In chapter II, section II, the following races are described, *viz.*, the Kirghiz and the Sarts, or settled portion of the population.

In section III, chapter I, Kostenko gives statistics relative to the Turkistán region regarding density of the population and distribution of the people.

General observations.—Division of the district into sections of greater and lesser density of population—Proportion of the sedentary inhabitants to the nomads—The town people—The rural population—Colonisation :—(a) by the natives in the province of Sir-Daria and the Zarafshan district ; (b) by Russians in the Semirechia province.

Distribution of population throughout the district.

¹ THE ILI VALLEY.

The Ili valley may be regarded as a half-way house between the Turanian races of Central Asia and the Mongol races of China. Here meet the settled Musulman, Taranchi and Dungan, with the Buddhist Sibo, Manchu, and Chinese ; as well as the nomad Muhammadan Kirghese, and the Lamaist Kalmuk.

The most numerous of the populations are the Taranchis, of Turkish race, who formerly lived in Kashgaria, and who, after the rebellion in 1756, were transported by their Chinese rulers to the Ili valley. They occupy the valley north and south of the river, from the confluence of the Kunges and Tekes, to Kuldja, and in 1877 numbered 28,000 males and 24,000 females, or about 40 per cent. of the population of the province.

The Taranchis call themselves Sarts, but to the Chinese they became known by their present name from their occupation as agriculturists or millet-sowers, from *toran*, meaning "millet," or, according to some, "a ploughed field." Mr. Ujfalvy calls them a mixture of Turk-Tartar peoples, strongly impregnated with Iranian blood ; but though Turks and Muhammadans, long contact with the Chinese has modified some of their customs. Their dress consists of a full shirt, drawers of leather or cotton, and khalat, with a *shub* added in winter. Ex-

¹ Lansdell, &c. (See pages 372 et seq., 387 et seq.)

cept the mullahs, the men do not wear turbans, but fur caps; the women and girls, low, gaudy, cylindrical hats, with conical tops. Occasionally one sees among the women a pleasant face, but they are all browned from exposure in agricultural pursuits—a striking contrast to their Tashkend sisters, who remain shut up in the house. The males shave their heads. Married women braid their hair in two, maidens in three, long plaits, and both blacken their eyebrows, but do not paint.

The Taranchis have a national song, very expressive of sadness. Most of them speak Chinese, but their own tongue is eastern Turki. (*See page 377.*)

The Dungans, or Tungans, are fellow-Muhammadans, and wear a skull-cap, shaving the head like the Taranchis; but in language, dress, and almost every other respect they resemble the Chinese. Several guesses have been made at the etymology of their name, and their origin is uncertain.¹ (*See page 378.*)

The Dungans, throughout Turkistán, are supposed to amount to 20,000. In 1862, in the Ili valley, they numbered 60,000; but in 1877, after the war, they counted only 2,100 males and 1,900 females, being chiefly in Suidun, Chinchakhodzi, and Torji. Some have emigrated and others been exiled to Ferghana and Semirechia, in which latter province, about Tokmak, they number 4,000 souls. The Dungans living in the towns north of the Tian-shan, as Manas, Urumtsi, &c., have been said to be Chinese turned Musulmans, but Mr. Ujfalvy declares this to be absolutely false as regards the Dungans of Kuldja, who are of a type quite distinct and radically different from the Chinese. They resemble rather the Usbegs and Sarts, inhabiting Tashkend and Kashgar. The Dungans abstain from spirits and opium; and neither smoke nor take snuff.²

They are more manly than the Chinese, and decidedly superior

¹ Some think them descendants of the old Uighurs; Terentieff makes them Turanians, converted to Muhammadanism in the eighth century, and transplanted into China to the province of Khansu. Legendary accounts connect their coming to Kuldja with Tamerlane, who, they say, married a Chinese princess and received the province of Ili to govern, and the land was afterwards given to his followers. Hence the Dungans consider themselves its rulers by right. According to other traditions their Musulman ancestors subdued China, and were by degrees, and partly through taking Chinese wives, absorbed in the conquered nationality.

² The Dungans are of middle height, and inclined to be stout. They have high and prominent foreheads, thick and arched eyebrows, eyes rather sunken, prominent cheek-bones, face oval, mouth of average size, lips thick, teeth normal, chin round, ears small and compressed, hair black and smooth, beard scanty and rough, skin smooth, neck strong, and extremities of average proportions. The characteristics of the Dungans are kindness, industry, and hospitality. They engage in husbandry, horticulture, and trade. In domestic life parental authority is very strong. After the birth of a child the mother does not get up for fifteen days, and, without any particular feast, the child receives its name in the presence of a mullah the day succeeding that of its birth. Circumcision takes place on the eighth, ninth, or tenth day. When a girl is married, she receives a dower. In sickness they have recourse to medicine and doctors, but never to exorcisms. After a death the mullah and the aged assemble to recite prayers; the corpse is wrapped in white linen, and then buried, but never burned. On returning from the interment the mullah and the elders partake of bread and meat. To saints they erect monuments like little mosques, for others simple hillocks. The widow may marry after 90 days, and on the third anniversary of the death a feast takes place.

in morals. Batchas¹ are unknown among them, though they are fond of gambling and the dance; but the two sexes dance apart, and the women never in public. The Dungans dance to the sound of the *dumbra*, a sort of guitar, and the *sabas*, or cymbal. This people never ceased to be Muhammadans, though their fanaticism has been somewhat modified by contact with idolators. They follow the Musulman laws, but have generally only one wife. On the death of a husband, his mother inherits, or if there be none, then the eldest brother, and afterwards the widow, even though she may have contracted a fresh marriage. The Dungans do not take oaths, but the deposition of witnesses is admitted. It is assumed, according to Mr. Hyde Clark, that a man is bound to speak the truth; if doing otherwise, he is by the law subject to the penalty that would have been incurred by the subject of his false testimony.

The Dungan weights and measures are Chinese, as also the usages for the purchase and sale of property. The towns are always fortified, their villages not, and the houses are built at a distance from one to another. Dungan carts are large, with immense wheels, of 18 spokes, and drawn by three or four horses. The smaller vehicles have peculiar wheels, covered with large nails. The people burn coal, candles, and oil lamps. They eat five times a day, but never horse-flesh or pork, and like Chinese vinegar in their plates. They are particularly fond of a fruit the Chinese called *boisa*, a kind of red berry the size of a raspberry. It is sown one year and eaten the next, after cooking in large saucepans.

To the two settled peoples of the valley who are Muhammadans, should be added 34,000 of their nomad co-religionists, the Kara-Kirghese.

The Solons and Sibos, as already stated, were brought to the Ili valley as military colonists from eastern Manchuria. The colonists were divided into 14 banners, or sumuls, afterwards increased to 16, the Solons being settled on the right bank of the Ili, and the Sibos on the left. We passed through the Solon district between At-kend and Borokhudzir, but their numbers were so reduced by the war that only 800 were left in 1877, and these, by the immoderate use of opium, appear to be doing their best to destroy themselves.

Solons, &c.

The Sibos number 18,000 souls, the sexes, numerically, being equal.

There remains one more tribe to be noticed in the present chapter, who are, in some respects, the most interesting in the Ili valley, because they are the least known.

The Russians have long had the Turanian nomads under their rule, but not so in an equal degree to the nomad Kalmuks. Allusion has been made to the migration of one of their tribes, called Torguts, to the Volga, towards the close of the seventeenth century, and how, after the annihilation of the Zungarian Kalmuks, the Torguts were invited by the Chinese to return. They did so in 1771, and were allowed to pasture the rich lands on the Kunges and Tekes rivers, considerably to the east of

Kalmuks.

¹ Boys kept for dancing and sometimes for questionable purposes.

Kuldja, where they still wander under the name of Torguts. In 1876 they numbered 9,600 males and 6,400 females. (*See page 315.*)

They represent the Mongol type in comparative purity. They are anything but good-looking.¹ It should be added that they are good-tempered and generous, but exceedingly indolent. They are credulous, and dearly love anecdotes and stories. Artificially-produced gaiety, however, is followed by deep melancholy. Usually timid, they become very angry if irritated, and though not remarkable for severe morals, they excel the morally corrupt Chinese, than whom they are more generous, frank, and hospitable. They use no flour food, unless it be gruel; and their brick tea they boil with milk, fat, salt, flour, and millet. The cares of domestic management all fall upon the women, who, according to M. Ostroumoff,² are not noted for conjugal fidelity, in connection with which it should be mentioned that a very large proportion of the males are Lamas, and therefore celibates so-called, so that the proportion of marrying males to females being decreased, polygamy is encouraged.

For administrative purposes before the Russian rule, and now again under the Chinese, the Kalmuks are divided into squadrons (*sumuns*, or *sumuls*), each of 200 tents. They constitute the Chinese irregular cavalry. Each *sumul* is under the direction of a cleric called a *gelun*, and a laic called a *zang*. The *gelun* has the right to promote the lower Lamas of his squadron to the rank of *getsul*, representing a third clerical grade. The *gelun* must be a celibate, must shave his head, fast on the 8th, 13th, and 20th of each month, abstain from wine and tobacco, and not wilfully kill an animal, even an insect. The *gelun* on ordinary occasions wears a long robe, enveloping him from head to feet, above which is worn a yellow gown with wide sleeves, and a yellow hat. When conducting religious ceremonies he wears many other and multiform garments.

The *gelun's* tent is always in the centre of the *sumul*, and is distinguished by its white, thin felt, and prayer-inscribed banner, floating from a staff at the door. Here live the *gelun* and his disciples (*shabi*), usually five, who are not less than 12 years of age. Some are simply servants, who attend to domestic arrangements; and the third class, called *getsul*, assist in the performance of religious worship. The *gelun's* tent, is also the house of prayer, as well as a dispensary, whence he administers medicine. His tent, like a chemist's shop, is accessible at all times to all persons whether to a man with a sick cow, or seeking a strayed horse, or one about to proceed on a

¹ The Mongol has a flat face, cheek-bones prominent, but not so wide apart as with the Buriats. retreating chin and forehead, small eyes like narrow slits, and obliquely placed. Their lips are colourless, set in a strange, almost idiotic, and at the same time inexpressively sad, smile. The teeth of the men are large and white, whilst those of the women are stained with black. The hair is straight, coarse, and invariably black, the beard scanty and bristle-like, and the skin rough and sun-burnt. They are below the middle height, with broad shoulders and long arms that hang idly by the side. The legs are bowed, and the voice, sharp, harsh, and strongly aspirate. The coarse hair that is left unshaven at the back of the head is twisted by the men into a long queue. — (*Lansdell.*)

² "Chinese Emigrants in the Semirechia Oblast," &c., by N. P. Ostroumoff, to whose able paper I am indebted for information concerning the Kalmuks that I have seen nowhere else. — (*Lansdell.*)

long journey. On entering, the suppliant places his hand on his breast, and bows, whereupon the gelun lays a holy book on the head of his visitor and pronounces a blessing. The gelun is maintained partly at Government expense (£4 16s. a year), but chiefly by his scattered "parishioners," some of whom he visits weekly, accompanied by one or two of his disciples. On arriving at a collection of tents he is joyfully received by the Kalmuks, who regard it as an honour to entertain him and give him a grand reception.

As a cleric the gelun is subject to his spiritual superiors, but not to civil jurisdiction. He is supposed to take no part in the secular affairs of the people, but simply to render a quarterly report of births in the sumul to the zang, with whom he is considered on an equality. Indirectly, however, he can influence secular affairs through the Lamas, who are numerous, since one of every three brothers in a family adopts the clerical calling. All the Lamas in a sumul live by themselves, and are in constant relation with their gelun, and receive from him personal assistance. The gelun's superiors are the heads of monasteries, who may fine, and even inflict corporal punishment on the geluns, which is seldom done, on account of the tolerance of the Kalmuks for the frailties of their pseudo-virgin geluns.

The *zang*, or civil administrator of the sumul, ranks with a European major. His tent is superior, but otherwise not different from the rest. The sole mark of distinction in his costume is a hat with a peacock's feather, and dark-blue button. It is his duty to arrange military duties on the frontier pickets, and mount guards over Government houses. He also investigates non-capital crimes, committed in the sumul, and may award from 27 to 54 blows with a whip, but not more. The people are not so intimate with the zang as with their spiritual ruler. They appear before the zang when summoned, and kneel on one knee. Usually he connives with the rich and oppresses the poor, who uncomplainingly submit.

The faith of the Ili Kalmuks who emigrated to Semirechia and were baptised, was that of Buddhistic-Shamanism, which the Lamas diligently propagated among the Solons, and Sibos, and Manchus,—very similar, perhaps, to what is found among the Buriats, where old Shaman customs still linger, though the people have accepted Buddhism.

Religion,

The Lamas are teachers, medical sorcerers, and priests. Their services are continually required; at a birth to read prayers over the mother, and to name the child; later, to instruct the boy, to marry him when grown up; to treat him, when sick, with prayers and drugs; and after death to decide whether the corpse shall be buried, exposed on the steppe, to be eaten by dogs, as at Urga, or burned. The Lama appears as chief counsellor and teacher in all the important events of life, and supplies his parishioners, besides, with amulets and burkhans. The Kalmuks had special oratories in Kuldja, and a monastery on the Tekes. In their tents they have movable burkhans, or idols,¹ and round their necks they carry amulets, made of

¹ Reminding one of Satan—Gen. xxxi. 19—34.

short prayers, sewn on pieces of cloth. When journeying they wear, besides ordinary amulets, a burkhan in a leather purse.¹

Family life among the Kalmuks possesses greater freedom than among the Solons. A Kalmuk girl is a shepherdess. She is married early, without much attention to her predilections, even without her consent, but she is at liberty to leave her husband and return to her relations. Whether she likes a suitor is known by her leaving the tent as soon as the marriage negotiations commence, or the reverse, by her staying during the whole conference. The parents, however, seldom regard her taste, and the aspirant, with their consent, watches for an opportunity of seizing the girl and carrying her off by force. The parents consider their duty towards their daughter fulfilled if only the man carry her off without their seeing it. A Kalmuk widow may marry three months after her husband's death, or even after one month's mourning.

The Kalmuks, who lead a nomad life, cordially hate the settled Taranchis, Dungans, and especially the Kirghese. Consequently, they have come very little under foreign influence, and preserve their national languages, both written and spoken, remain faithful to their national traditions, and love their own peculiar songs. The women are particularly fond of singing. What foreign influence reaches the Kalmuks does so through Buddhist teaching, which is concentrated in Kalmuk monasteries, and disseminated by means of the Lamas. The learning of the Lamas is almost limited to the ceremonies of the Buddhist religion. As a mundane element in Kalmuk-Buddhist literature may be mentioned a certain kind of medical knowledge, which, however, is not the heritage of the people at large, but only of the Lamas, in whose hands it assumes a form nearly akin to sorcery. The manner of regarding the appearances of nature was borrowed by the Kalmuks from Buddhist writings, in harmony with which they explain eclipses of the sun and moon, rain, hail, thunder and lightning. The Kalmuks consider an eclipse of the moon portends general poverty over the whole land, and endeavour, by crys and drumming, to frighten from the moon the evil spirit that is shading the light. In a whirlwind they recognise the soul of a suicide. The Kalmuks endeavour to get out of its way, or, if that be impossible, they think to evade its influence by spitting, as if shrinking from contact with an unfortunate soul reproved by God.

I have thus described some of the tribes of the Ili, my remarks upon their government applying rather to the Chinese than the Russians.—(*Lansdell.*)

Old, or Taranchi, Kuldja was founded about a century ago and is

¹ Some of the burkhans are painted in oil-colours on cloth; some are carved in copper, or cut on wood or stone, baked in clay, or sometimes printed on paper. The painted burkhans on cloth are often rolled on a wooden cylinder, and tied, but unrolled and hung in the tent during prayer. On *fête* days the Kalmuks place before the burkhans small copper cups, filled with Kunjut oil and ignited. They have also various perfumes, one being prepared from a finely-broken brushwood. Besides the burkhans, religious respect is shown to little black pyramids, the size of a pigeon's egg, with Tibetan letters in relief. These are said to come from Tibet, prepared from a mixture of clay, with ashes of pious Buddhists, whose corpses have been burned. The pyramids are carried by Kalmuks in copper or silver cases on their bosom as sacred amulets.

a rectangular town walls 30' high and thick (30'), 4 miles in circumference. Two wide streets, crossing each other, divide it into quarters.

Apricots ripen in July; late peaches in August; grapes and nectarines in September; the fruits including pomegranates, apples, pears, and mulberries are small,

Ili valley,

as the trees are uncared for.

The Ili is here 700' wide, with a strong current; it is crossed in a ferry; cattle swim over.

The soil in the neighbourhood of the town is sandy clay, and very fertile. This is characteristic of the right bank of the Ili, though there are parts with rich mould,

Soil; climate.

and extensive marshes, overgrown with jungle. The climate, too, is suitable for gardening, and is warm and healthy. The summer heats go up to 106° in the shade, but the sultriness is considerably reduced by summer rains. Thanks to the spring showers, grain can be raised about Kuldja without the aid of irrigation. Snow lasts for about six weeks. This mild climate is accounted for by the sheltered situation of the valley, the Borokhoro range protecting it from the north winds. The prevailing wind is from the low lands of the Ili on the west bringing fogs and rain.—(*Lansdell.*)

Temperature of Kuldja.
—(*Kostenko.*)

The average temperature of the year at Kuldja is as follows:—

	Centigrade.	Far. (approx.)
Mean temperature	+ 9·2° (?)	48·0
December	— 3·5° "	25·0°
January	— 9·8° "	14·0°
February	— 6·3° "	22·0°
March	+ 2·4° "	36·0°
April	+ 12·5° "	54·0°
May	+ 18·5° "	65·0°
June	+ 21·4° "	70·0°
July	+ 24·8° "	77·0°
August	+ 23·0° "	73·5°
September	+ 18·1° "	64·5°
October	+ 9·0° "	48·0°
November	+ 0·5° 1° "	33·0°

Although the Kuldja oasis lies to the north of the towns of Vernei, Aulia-Ata, and Turkistán, it is excellently sheltered on almost all sides by high mountains. This is the cause of its mild climate, which allows of the growth of very delicate trees and fruits. Thus in the Kuldja gardens there grow apricots, peaches, pomegranates, grapes, apples, pears, and mulberries. And although these fruits are small and wild, this is because they are insufficiently cultivated. At Suidun, which lies 27 miles to the west of Kuldja, the fruit is incomparably better. On this account, since the arrival of the Russians in the upper Ili tract, the natives have begun to graft Suidun buds on the Kuldja trees. At Kuldja cotton is being grown, and experience has shown that it can

Kuldja being sheltered by high mountains;
cause of its mild climate.
Fruits in Kuldja.

Cotton cultivated at Kuldja.

Proceedings of the Imperial Russian Geographical Society for 1871, No. 1.—(*Kostenko.*)

also be successfully raised 100 miles to the west of Kuldja in the valley of the Borokhuzir. The winters here are equable. Snow does not last for more than six weeks. Cold in winter goes down to 24° , and the summer heats ascend to $+35^{\circ}$ R. (111° F.) in the shade. The prevailing wind is westerly, *i.e.*, from the lowlands of the Ili. This wind brings with it mist and rain.

How long snow lasts at Kuldja.

Degrees of heat and cold.

Prevailing wind.

There are Sibó sumuls, or encampments, beyond the river where the country is low and flat. There are three Lazariste priests at Kuldja and a small Roman Catholic community.

In 1878 the total population was 7,200 males and 5,300 females; of these 1,300 were Russians, 6,000 Taranchis, 1,700 Chinese; and the rest Sarts and Tungans, in about equal numbers (530 each). There are 3,300 houses and 25 caravansaráis in the town. There is a fair proportion of Chinese women. Eggs cost 5*d.* to 8*d.* a hundred; fowls 1½*d.* to 2½*d.* each.

The following are fair specimens of Kuldja prices at ordinary times:—

Wheat and rice 2*s.* 6*d.*, barley, peas, and millet 1*s.*, chaff 4*d.*, and clover 3*d.* per cwt. Mutton from ½*d.* to 2*d.*, butter 8*d.*, and tallow candles 4*d.* per lb. Russian chintz sells at 7*d.*, and ticking and calico at 11*d.* per yard; fans from 1*s.* to 10*s.* each; boots from 2*s.* to 20*s.* per pair. A cow costs from 30*s.* to 50*s.*, a horse from £2 to £6, a sheep 6*s.*, and an ox from 50*s.* to £4. A log of wood, 14' long and 14" in diameter, costs 4*s.* A plank, 6' long and 14 inches broad, sells for 2½*d.*, but the same 7' long costs 1*s.* Kiln-burnt bricks may be had at 4*s.* per thousand, but dried bricks for 10*d.* per thousand less.

In the town are Taranchi, Chinese, and Sart bazárs, the latter chiefly occupied by Tungans. There are 650 shops in the town. Sarts from Tashkend, Khokand, and Kashgar, together with Tatars from Vierny and Kopal, carry on the best trade.

The extraction of oil from linseed and mustard seed is an industry, and oil, oil-cake, and soap are the resulting products. Cast-iron foundries exist; paper is manufactured from hemp; vermicelli is manufactured by the Chinese; vinegar is distilled from wheat. The industrial buildings in 1873 numbered 38, producing to the value of £3,000.

Its handicraftsmen numbered 238 Taranchis, 5 Tungans, and 66 Chinese.

The houses are of beaten clay, with thatched roofs, low and ugly; wanting in ventilation and light, and with their courtyards heaped up with impurities.

The Tzar's rule is preferred to that of China. On the rendition of Kuldja many Taranchis and Tungans emigrated to Russia, burning their houses before leaving. The Chinese did their best to prevent wholesale emigration by promising greater liberty and freedom from taxes for ten years. Coercion was also said to have been employed.—*Lansdell.* (See pages 314 et seq., 363, 471.)

Referring to the rendition of the province of Kuldja and of its value to China, Kostenko remarks:—

“The eastern boundary of the Russian province of Semiraitchia is excellently protected by high ranges which surround the valley of the upper Ili and include the territory of the Kuldjan region.

“In this country, after the expulsion of the Chinese by the Dungs in 1865, there speedily arose an independent Sultanate, at the head of which was Abil-Oglia. This Sultanate was founded by the Taranchis, who succeeded in defeating the Dungs and subjecting them to their power. The arrogant and presumptuous tone adopted by Abil-Oglia in his relations with the Russian Administration of Turkistán—his obstinacy and refusal to enter into any sort of compromise with us—his harbouring of deserters from Russian territory—were the reasons which led to our conquering this Khanate in 1871, not with the object of annexing it to the Russian dominions, but of restoring it to the lawful owner, the Chinese Government, with which it would be possible to carry on regular trade and political relations. (*See page 563.*) With this desire, immediately after the occupation of Kuldjan territory, a communication was made to the Peking Government regarding the despatch of a plenipotentiary and of troops to take over the upper Ili tract as a subject province of China. Dzián-Dziun-Jun was appointed by the Bogdi Khan (title of the Chinese Emperor) to be the ruler of the province conquered by the Russians, and he speedily arrived in Russian territory and was invited to come to the town of Sergiopol in order to negotiate for the rendition of this province to China. The Russian Ministry of Foreign Affairs fervently wished the transfer to take place, and therefore Major-General Boguslavski was directed to proceed to Turkistán as its agent, and he, being acquainted with the situation of affairs on the spot, was entrusted with the settlement of the business. But on his arrival at Kuldja, General Boguslavski was met by a deputation of Taranchis and Dungs, who besought his mediation with a view to the inhabitants of the country about to be restored to China becoming Russian subjects. This deputation further declared its complete aversion to the prospect of again passing under the hated Chinese yoke. The people had positively decided that, in the event of their being once more handed over to the Chinese, they would at once either exterminate their oppressors, or, if this were not possible, they would destroy themselves. The Chinese were then informed that Kuldja would only be restored to them when they had succeeded in quelling the Dungan insurrection throughout the country between the Great Wall and Ili, giving complete amnesty to those who might declare their submission and had made due arrangements for the settlement of their Musulman subjects. During the subsequent years the Chinese really succeeded in re-establishing their authority over the outlying provinces. After again obtaining possession of Kashgaria in 1877, the Chinese closed in upon the Ili province from the south and once more strenuously clamoured for its restoration.

“The possession of the province of Ili is very important to the Chinese. This fertile oasis produces an abundance of corn, which has at all times been exported by its inhabitants to the neighbouring

countries. The same country would be a good base for the Chinese on which they could operate so as to hold in subjection all the countries to the east, as far as the Great Wall. These countries are remarkable for their extreme poverty and scanty productive power, and are not capable of furnishing supplies for the Chinese troops and Administration, whilst the Ili province has always been a granary whence supplies could be readily drawn.

"The transfer of Kuldja to China would thus, to a considerable extent, increase her political and military importance, whilst it would, to a certain degree, weaken the Russian border line in eastern Turkistán; for with the rendition of Kuldja, that frontier would be exposed and therefore easily accessible to Chinese inroads.

"From all that has been said it is clear that the Russian border line in Turkistán cannot be called secure throughout its extent, notwithstanding the desire on the part of the Home Government and of the Local Administration not to go beyond our present frontier. On the east the frontier of Russian Turkistán touches Chinese provinces that have only lately passed under the rule of the Bogdi Khan, and that too after the terrible devastation known as the quelling of the Dungan rebellion. It may, moreover, be positively asserted, that if the Chinese have quelled the revolt in those provinces, and have regained possession of the country as far as Chuguchak and Kashgar, they have only done so with Russian co-operation, because it is to Russia's own interests to have her Central Asian dominions flanked by those of a sovereignty sufficiently civilised to respect international right,—a power with which, in fact, it would be possible to enter into definite transactions of both a political and commercial kind.

"Now, it depends entirely on the Chinese themselves whether our expectations shall be justified, and whether friendly relations with Russia are to be maintained. Doubtless, they will find it difficult to govern their recently-subjugated population, and Russia will, of course, have to once more tender her aid to the Chinese Government. On the other hand, it is evident that, in spite of all our efforts to preserve friendly relations with the Chinese, there must be a limit to such support."

Ili district.

Wolves in the southern portion of the Ili province carry off many cattle.

Amongst the Chinese of the Ili valley there were (1) Manchus, formerly the representatives in the Ili valley of the Celestial Empire; (2) the Khambi, from the south-east provinces of China (3,000 strong), for the most part labourers and soldiers; (3) Champani, criminals from China, who, after a term of hard labour, got their living as best they could, and were compelled in time of war to serve in the infantry.

Suidún was the only large town in the province that outlived the events of 1863-66. In 1878 it had 1,260 houses, with a population of 4,300 Tungans and 700 Chinese; the town is surrounded by massive walls. Jar-Kend is now colonised by Dungans and Taranchis, who emigrated from Kuldja to be under Russian rule; wheat is here plentifully grown, and will be cheaper in this neighbourhood than in Vierny.

Below Kuldja the Ili flows through a flat, inhabited country, between open banks, the right steeper than the left, a wide and copious stream. The banks are marshy and overgrown with reeds. When the river is full it is not fordable; at other seasons there is a ford at Old Kuldja $2\frac{1}{2}$ ' deep, and another near the ruins of Chinese Kuldja 2' deep. The river is frozen for about 60 days, from the end of December to the end of February, but at other times timber is floated down from its upper to its central course. The stream, indeed, is called navigable from 50 miles above Kuldja to 400 miles below it, where its waters enter the Balkhash. Attempts to navigate it with a 20-ton steamer, screw (with keel), steaming 12 to 14 knots an hour, have not been successful; the steamer at times made but a few miles a day against the current; the water is not deep enough for crafts drawing over 2' to 3'. The trade of Kuldja could not support it.

Russian goods are shipped at Irbit and go thence up the Irtish to Semipolatinsk, and on by horses to Vierny. There is a project to take goods from Semigarsk on the Irtish to Lake Balkhash by horses, and then up the Ili to Ilisk, saving 285 miles by road, at a cost of 528 miles by water. There is also a project to carry goods from Irbit across the desert through Akmolinsk to the Balkhash, on which a lake steamer, towing iron barges, would ply. The lower Ili is difficult to navigate, one of its drawbacks being want of wood fuel; coal abounds in the valleys away from the river.

GOVERNMENT-GENERAL OF TURKISTAN.

"Turkistán," in its widest acceptance, signifies the country of the Turks, and is bounded on the north by Russia, on the west by the Caspian, on the east by Mongolia and Tibet, and on the south by Hindustán and Afghánistán. That portion lying between the Tianshan and the Karakorum mountains is called eastern or Chinese Turkistán, whilst the Aralo-Caspian depression, with which we are chiefly concerned, has now received the name of Russian Turkistán. By the year 1867 Russian conquests in Central Asia had led to the acquisition of so much new territory that it appeared desirable to the authorities to place it under a separate administration, to be called the "Government-General of Turkistán,"¹ which in its widest extension consisted of the provinces of Semirechia, Kuldja, Sir, and Amu-daria, Ferghána, and Zarafshán.

The Government-General of Turkistán now includes only the four provinces of Sir-daria, Amu-daria, Ferghána, and Zarafshán. Its greatest breadth, along the 43rd parallel, is 750 miles; its length, on the 84th meridian, is 460 miles; the entire area of the vice-royalty

¹ This was formed of the pre-existing province of Turkistán, the Tashkend district, the country occupied in 1866 beyond the Jaxartes, and that part of the Semipolatinsk province which lies to the south of the Tarbagatai range. To this was added in the following year the Zarafshán circle, with the town of Samarkand; then, in 1871, the cis-Ili district, with the town of Kuldja; the Amu-daria section in 1873; and lastly, in 1876, the Khanate of Khokand was annexed thereto, and re-named as the province of Ferghána.

being 257,000 square miles; or the extent of the Austrian Empire and Switzerland.¹

It is bounded on the north by the Governments of Irgiz, Turgai, and Akmolinsk; on the east by Semirechia and Kashgaria; on the south by Bukhára; and on the west by Khiva and the Aral Sea. The surface is of the most varied character. After the Himalayas, it contains some of the highest mountains in the world. It possesses also enormous plains, fruitful valleys, and barren wastes, as well as sandy, brackish, and marshy tracts. If Semirechia be included in the calculation, more than half the soil is desert, nearly a half is pastured by nomads, and the portion under cultivation is only 2 per cent. of the whole.² The province of Sir-daria is divided, according to Kostenko, into 6 districts, that of Ferghána into 7, whilst the Zarafshán province is composed of 3 sections, and the Amu-Daria of 2; making 18 in all.

The climate of Russian Turkistán is as varied as its surface; its chief characteristic is its dryness. Rain, in the summer, except in the mountain districts, is rare. The humidity brought by the south-west winds is deposited upon the Tian-shan and Pamir mountains. According to M. Soverstoff's observations in the Tian-shan, north of the 42nd parallel, at heights of more than 5,000 feet, rain falls daily between 4 and 7 in the

¹ The following table concerning Turkistán gives its larger extent, inhabitants of both sexes, and density of population:—

Provinces.	Extent in square miles.	Inhabitants.	Population to square mile.
Syr-daria	182,000	1,094,557	6
Amu-daria	36,000	107,209	3
Ferghána	28,000	729,690	26
Zarafshán	10,000	348,413	35
Semirechia	156,000	758,250	5
TOTAL	412,000	3,038,119	—

² The following table from Kostenko gives the character of the soil and the extent of its surface in square miles:—

Oblast.	Total land.	Culti- vated.	Nomad pasture.	Waste.	PER CENT.		
					Culti- vated.	Nomad pasture.	Waste.
Semirechia	845,873	18,364	402,796	406,824	2'22	49'14	49'64
Sir-daria	962,236	8,011	402,796	551,428	0'83	41'86	57'31
Amu-daria	192,447	1,022	29,090	162,333	0'53	15'12	84'35
Ferghána	149,929	13,426	67,132	69,370	8'96	44'78	46'26
Zarafshán	53,706	4,287	29,090	24,803	7'98	54'17	37'85
TOTAL	2,186,291	45,112	924,194	1,214,761	2'06	43'30	54'64

afternoons of May and June, and also in less quantities in the night and early morning. At heights of 8,000 feet, throughout the summer, rain and snow succeed each other, but the latter quickly melts; as it does also from 1,000 to 1,500 feet higher, where in summer there is constant snow, but no rain.

The summer heats of Russian Turkistán are intolerable, and ascend to 110° in the shade, and 135° or 145° in the sun. The hot period south of Tashkend lasts for five months, and about three in the district further north.

A noteworthy result of the want of humidity in the Turkistán mountains, valleys, and plains, is the gradual drying up of the soil during the present geological period. The basins of the Sir and Amu-daria show abundant traces of this process. Here are seen old river beds, partially filled up, and numerous rivers that of old were tributaries of some principal stream, now stop half-way to lose themselves in the sands, or end in brackish marshes. Small lakes have evaporated by hundreds and by thousands, leaving behind only beds of salt. Great lakes, like the Balkash, Aral, and the Caspian, have shrunk; others in the mountains are partially emptied, like Issik Kul; whilst some have disappeared, like those now represented by the plains of Kuldja and Ferghána. By reason of this continued desiccation a large portion of the country has been transformed into steppe, not only in the lowlands, but also in the mountains, where a depression in the surface is often a steppe, with the vegetation singularly limited both as to the number of species and their period of growth. The climate, in fact, in such cases is scarcely more favourable to vegetation than the Arctic regions, the development of the plants being limited to about three months, in the north by the snows of winter, and in Turkistán by the dryness of the summer. Consequently forests are not met with, even in the mountains, in the province of Sir-daria. It is only towards the east in Semirechia, where the amount of river water is comparatively greater, that one meets with trees in any number.

Trees, bushes, and grasses only grow here with skilful irrigation by means of canals (*ariks*). In the province of the Sir-daria, forests are not met with, even in the mountains. But as one goes further to the east, towards the mountains of the province of Semirechia, in which the amount of river water is comparatively greater, there appear forests. These forests consist principally of spruce firs. The same tree is found in the Jungar and trans-Ili

Firs most frequent. Ala-Tau, in the main range of the Tian-shan, and in the branches of that range. But even in the forest region there is observed an insufficiency of moisture. Hence the forest growth of those mountains extends only to certain spots, *viz.*, the northern and north-western slopes, the gorges of the streams which issue from beneath the snow. The peaks not clad with snow are also devoid of forest growth. On the southern slopes of the mountains forests are never seen, and they are positively without a tree. The thicker forests are found on that portion of the main Tian-shan range which stretches from the highlands of the Kunges

No wood on southern slopes of the mountains.

to Khan-Tengri. As we go further to the west, the quantity of forest growth becomes less, until at last, in the branches of the Tian-shan on the approximate meridian of the town of Aulia-Ata, forests entirely cease, although trees here and there do appear in the beds of mountain torrents and in their gorges.

Besides the spruce fir, which is the principal tree of the Turkistán, or rather Semirechian forests, we also find the Commoner kinds of trees in the Semirechia forests. *archa* or juniper (*Juniperus excelsa*), the poplar, willow, dwarf elm, *jida*, wild apple, apricot, and, last of all, the birch. But this does not grow everywhere. Thus, for example, while it is found in such quantities in the Muzárt pass, it is Birch rare. is not known in the other passes of the Tian-shan lying further to the west,—that is to say, it has not been discovered in the passes near the village of Aksu, the town of Karakol, and the other Russian settlements distributed along the base of the Tian-shan. The birch is seldom met with in the trans-Ili and in the Jungar Ala-Tau, nor is it found on the mountains of the province of the Sir-daria, except in single specimens.

As the limits of forest growth on the mountains of the Turkistán district, the following figures may be taken as Locality of certain trees. the average. The fir grows in a region 6,000 to 9,000 feet above the sea; the birch, between 3,000 and 8,000 feet; the juniper, between 5,000 and 10,000 feet, except in the Alai, Turkistán, and Hissar ranges, where it is found between 6,000 and 11,000 feet above the sea. (*See page 394.*)

The snow-line on the Tian-shan is not everywhere the same. In Snow-line of the Tian-shan. the northern ramifications of that range it commences at either 9,000 or 10,000 feet; within the parallel of 43° it is at 11,000 or 12,000; whilst in the parallel of 40° (in the Alai and Turkistán ranges) it commences at 14,000 feet above the sea. (*See page 390.*)

The northern climatic zone takes in the whole of that country Climate, above the 45th parallel, including the lower courses of the Sir-daria and the Ili, and the tract north of Kopal. The whole of this extent has a fairly cool climate. Hence the more delicate fruits, as apricots, vines, &c., do not thrive here. Snow lasts for two or three months during the winter. In the lowlands of the Sir-daria snow is always accompanied by stormy winds from the north or west. At fort No. 1 the summer lasts five months, without rain, and is sultry; and in winter the river is frozen for 123 days. The average winter temperature of this northern zone is about equal to that of Russia north of St. Petersburg.

The apricot zone lies south of the preceding one, and includes Perovsk and the towns of Hazrat, Aulie-Ata, and Vierny. In this zone the winter is not so protracted. The Sir at Perovsk is frozen only 97 days, but the winds blow almost as violently as they do further north, while at Aulie-Ata and along the Alexandrof and trans-Ili Ala-Tau ranges the winds are noted for their violence. The summer heats of this tract run up to 100° in the shade, and the cold

reaches 22° below zero. The snow lasts for two months, and the winter here may be compared with that of Central Germany.

The peach and almond zone comprises the towns of Chimkent, Tashkend, Tokmak, Ura-Tiube, Jizakh, Samarkand, Petro-Alexandrovsk, Nukus, and the Kuldja oases. In this tract of country the vine is but little cultivated, except in the northerly parts, where it is covered up in winter, though from Tashkend southwards it need not be so protected. Although Ura-Tiube, Jizakh, Samarkand, and Katte-Kurgan lie considerably to the south of Tashkend, yet owing to their greater altitude they all enjoy a similar climate.

In the pistachio nut zone is included the valley of Khojend and the neighbouring Khokand mountains. The character of this tract is such that the vine may be cultivated on the high ground, whilst its climate allows of the growth in the open air of the more delicate plants and fruits. The average winter temperature is about the same as that of Central France, though the latter is some 5° further north.

MEAN TEMPERATURES.

The following table gives the mean temperature at various points in Russian Central Asia, derived from observations extending over different numbers of years, the figures in the second lines representing the scale of Celsius (Centigrade); in the first line Fahrenheit:—

Place.	No. of years.	What years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
Akmoïnsk	5	1870-75	0°55 -17°47	-4°72 -20°40	12°15 -11°03	42°67 5°93	57°15 13°97	65°66 18°70	69°62 20°90	66°29 19°05	52°66 11°48	35°64 2°02	20°26 -6°52	9°28 -12°62	35°53 1°96
Aulie-Ata	6	1870-75	25°12 -3°82	26°01 -2°82	42°71 5°95	55°31 12°95	65°53 18°63	70°38 21°32	73°44 23°02	70°25 21°25	63°00 17°22	49°91 9°95	39°15 3°97	35°20 1°78	51°37 10°76
Baku	28	1848-75	38°3 3°50	38°12 3°40	42°98 6°10	51°98 11°10	63°81 17°67	72°79 22°66	73°44 25°80	78°53 25°85	71°46 21°92	61°93 16°63	52°45 11°36	42°85 6°03	57°78 14°32
Khøjend	4	1886-87	34°16 1°20	33°08 0°60	50°63 10°35	63°5 17°50	74°30 23°50	82°58 28°10	84°92 29°40	82°13 27°85	73°04 22°80	57°02 13°90	43°07 6°15	38°75 3°75	59°72 15°40
Kasalïnsk	16	1870-71 1855-58 1862-66-69-75	11°37 -11°46	11°55 -11°36	25°82 -3°42	49°70 9°50	65°39 18°55	73°49 23°05	77°20 25°11	74°12 23°30	61°48 16°38	44°75 6°75	29°89 -1°18	20°44 6°41	45°25 7°36
Kuldja	4	1853-54 1856-60	14°40 -9°78	20°70 -6°28	2°45 -2°45	54°46 12°48	65°21 18°45	70°56 21°42	76°68 24°82	73°08 22°82	64°58 18°10	48°76 8°98	32°90 0°50	26°02 3°32	48°56 9°20
Nukus	2	1874-75	25°88 -3°40	21°92 -5°60	36°86 2°70	57°20 14°00	67°46 19°70	72°50 22°50	77°72 25°40	74°84 23°80	65°12 18°40	48°65 9°25	42°08 5°60	31°64 -0°20	51°82 11°01
Perovsky Fort	10	1856-58 1862-68	13°14 -10°48	11°77 -11°24	29°68 -1°29	52°00 11°11	67°41 19°67	74°79 23°77	77°99 25°55	74°12 23°40	60°31 15°73	44°56 6°08	29°91 -1°16	20°08 -6°62	46°26 7°92
Petro-Alexandrovsk	2	1874-75	28°58 -1°90	24°80 -4°00	41°54 5°30	59°72 15°40	69°80 21°00	75°20 24°00	83°30 28°50	75°56 24°20	67°55 19°75	50°72 10°40	44°06 6°70	33°26 0°70	54°50 12°50
Samarkand	2	1870-71	35°60 2°00	34°70 1°50	46°40 8°00	60°44 15°80	77°00 25°00	80°06 26°70	82°40 28°00	70°88 26°60	76°46 24°70	58°10 14°50	40°10 4°50	44°24 6°80	59°61 15°34
Semipolatïnsk	18	1854-70 1875	1°98 -16°67	1°67 -16°85	11°86 -11°19	39°67 4°26	57°07 13°93	67°91 19°95	72°32 22°40	67°60 19°78	54°46 12°48	37°54 3°08	20°80 -6°22	7°05 -13°86	36°61 2°56
Tashkend	9	1867-75	30°09 -1°06	33°62 -1°06	45°68 7°60	58°89 14°93	69°98 21°10	78°33 25°74	80°55 24°08	75°34 24°08	66°33 19°07	53°49 7°03	44°65 7°03	39°65 4°25	56°37 13°54
Ura-Tiube	2	1873-74	26°15 -3°25	31°10 -0°45	39°38 4°10	53°42 11°90	68°45 20°25	72°95 22°75	78°80 26°00	75°38 24°10	66°11 18°95	49°64 9°80	46°04 7°80	37°40 3°00	53°71 12°06

Earthquakes in Turkistán, as throughout Central Asia generally, are frequent, especially in the mountain region, where the shocks are severe; they are most severe in February and March.

The abundance and diversity of the minerals are great, but few are worked: all useful minerals are imported from Russia, it being more profitable to do so than to establish furnaces on the spot, where the yield would not compensate for the cost of production, of transport, &c. (*See page 392.*)

Gold is found in the sands of several of the rivers, but in small quantities; it has been found nowhere in the vein.

SIR-DARIA PROVINCE.—(*Lansdell.*)

The Sir-daria province comprises the northern portion of the present Russian Turkistán, and the basins of the middle and lower Sir-daria and Chu rivers, with the eastern shore of the sea of Aral. The province for the most part is flat, the western spurs of the Tian-shan occupying only a relatively small portion of the surface.¹

Its surface consists of deserts, steppes, oases, and mountains; the first includes the Kyzyl-Kum, Kara-Kum, Ak-Kum, &c. Fifty-seven per cent. of the surface is waste, forty-two per cent. is pasture land, and only one per cent. is cultivated.

The province and all Turkistán are comprised in the Aral basin, in which the two largest rivers are the Sir and Amu-daria.

It is supposed that the Sea of Aral and Lakes Balkhash, Ala-kul, and Ebi-nor once formed one united basin; only a chain of lakes, bogs, and salt-marshes mark the former connection. This vast water-basin extended from the Caspian to Lake Balkhash.

The Turkistán rivers are all remarkable for their velocity. Fed by the snows from the spring until the middle of summer, they are surcharged with water and liable to freshets. Their direction is not favourable to commercial utility, since the caravan routes cross, rather than skirt them. The roads from Khiva, Orenburg, Petropavlovsk, and Bukhára are intersected by one or more of them. The Russians used the Sir as a route for advancing into Central Asia; whether the

¹ The Alexander range extends into the Sir-daria province, and in the neighbourhood of the sources of the Talas, the Talasky-Ala-Tau is detached from the Tian-shan mass, and stretches westwards to the sources of the Aris, north-east of Chimkend. Running off thence to the north-west is the Kara-Tau chain, whose western slopes the traveller from Orenburg sees from Julek after passing Perovsky. The mountain heights of the Kara-Tau range do not exceed from 5,000 to 6,000 feet, and in summer are free from snow, thus giving rise to their name of Kara-Tau, or "Black Mountain." The south-western slopes of the chain are steep, whilst the central mass consists of an elevated plateau, with deep valleys. The most elevated portions of the range lie west of the River Kamir-Tas, and rise to 7,000 feet. These mountains are crossed by many passages, of which the Turlar pass is at an altitude of 6,800 feet. South-east of the Ala-Tau are the Chatkal mountains, some of the ramifications of which constitute the frontier between the provinces of Sir-daria and Ferghána, whilst its principal spurs separate the Chirchik basin from that of the Jaxartes. After shutting in, with its northern spurs, the Chirchik valley, the Chatkal range breaks out into numerous second-rate ridges, known as Kendir-Tau and Kurama-Tau, which separate the Kurama district from Ferghána. The most western end of the Kurama-Tau continues to the bed of the Sir, north of Khojend, and is called the Mogul-Tau. Between this and the Kurama-Tau lies the postal road from Tashkend to Khojend.

Sir and Amu will ever become trade routes is doubtful. They are, however, navigable as far as the Zarafshán and Chu.

From Petersburg Tashkend is reached *viá* Orenburg, 60 hours by rail. Thence the post-road leads by the River Ural to Orsk, 175 miles; thence to Irgiz, 259 miles; skirting the Kara-Kum sands and the Sea of Aral, Kazalinsk, 162 miles, is reached. Kazalinsk is a town of 3,000 inhabitants, at the junction of the Khivan, Bukhariot, and Tashkend caravan routes.

Communications.

After leaving Kazalinsk, or Fort No. 1, the road keeps company with the Sir, a distance of 117 miles, and past seven stations, to Karmakchi, or Fort No. 2, whence it makes a detour to the left of the marshes, called Bokali Kopa, to the ninth station, distant 119 miles, at Perovsk. This was originally a Khokandian fort and town called Ak-Masjad (White Mosque), which in 1853 was captured by the Russians under General Perovsky, and the place called after his name. It is now a town of 3,000 inhabitants, peopled, like Kazalinsk, by Kirghese, but having also an element of Sarts.

For the next 72 miles to Julek the road passes six stations through a district abounding in game, after which the monotony of the steppe is relieved by the beautiful outlines of the Kara-Tau mountain range. Four stations, or 60 miles further, bring the traveller to Yani-Kurgan, the great interest of this portion of the road being its adjacent ruins. An old legend says that the valley of the Sir was once so thickly settled that a nightingale might fly from branch to branch of the fruit trees, and a cat walk from wall to wall, from Kashgar to the Sea of Aral. The numerous traces of old canals give some colour to the story at this part of the river bank. Here once were large and flourishing towns, and noticeable amongst them were Otrar, the place of Tamerlane's death, Savran, and Jend.

It is on arriving, however, at the fifth station, 78 miles further, that the great monument of these parts looms in view,—the famous mosque of Hazrat Khwájá Ahmad Yasavi, in the city of Turkistán, commonly called "Hazrat." The building was commenced by Tamerlane in 1397, over the tomb of Shaikh Ahmad Yasavi, who died about 1120, the founder of the sect Jahria. He is the patron of the Kirghese, and one of the most celebrated saints in Central Asia. The city of Turkistán has now a population of only 5,000, and contains little of interest, except the mosque. A journey of 102 miles further, at the seventh station, brings the traveller to Chimkend, the chief town of the *uyezd*. The steppe, undulating at this portion of the road, is in spring rich in flowers.

At Chimkend the post-road branches eastwards to Semirechia, and continues south to Tashkend. Thence it bifurcates, leading, on the right, through Chinaz and Jizakh to Samarkand, and on the left through Khojend and Ura Tiube to Jizakh.

Besides the post-roads of the province there is a great caravan route from Khiva to Kazalinsk, with a branch going off to Perovsk, another going north-west from Hazrat to Turgai, and a third to the north-east, bifurcating to Atbasar and Akmolinsk. Besides, there are many small longitudinal caravan routes, with scarcely one, however, going in a lateral direction.

The people of Russian Turkistán, as Kostenko observes, are of two races, the Caucasian and Mongolian.¹ (*See page 602.*)

The Turks predominate; the Kirghiz are the most numerous; then Sarts.

The civil population of the Russians forms about 1 per cent. of the people of Turkistán and Semirechia, in which latter they are principally grouped, and where the Russian element forms 7 per cent. of the entire population of the province.²

¹ The following shows their subdivisions :—

Caucasian . . .	{	Aryan . . .	{	Russians. Iranians of upper Oxus, Tajiks of Bactriana, trans-Oxus, and Sogdiana. Iranians proper,—Persians, Afgháns, Hindus, Gypsies.
		Semitic . . .	{	Jews.
Mongolians . . .	{	Turko-Mongols . . .	{	Arabs. Kazaks. Kara-Kirghese. Uzbeks. Karakalpaks. Kipchaks. Turkmáns. Tartars.
		Mongols. . . .	{	Kalmuks. Chinese. Sibos. Solons.

² In the Sir-daria province they number 8 per cent., and are chiefly centred in Tashkend (5,000 souls) and Kazalinsk (about 1,500), few being found in other towns of the same province. In the Zarafshán district they number 4,000 souls, or about 1 per cent. In the Amu-daria section the same element numbers a population of 1,184, of whom the greater portion are exiled Cossacks from the Ural; and in the Ferghána province there were, in 1876, Russians to the number of 1,229.

Number of Races in Russian Turkistán. (Kostenko.)

PROVINCE.	Russians.	Tatars.	Sarts.	Tajiks.	Uzbeks.	Karakalpak.	Kipchaks.	Turkámans.	Dungáns.	Taráchis.	Kirghese.	Kuramas.	Kalmuks.	Manchus.	Persians.	Hindus.	PROVINCE.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Semirechia	44,585	2,978	3,365	...	...	...	...	...	19,657	36,265	595,237	...	24,787	21,932	...	...	Semirechia.
Sir-daria	8,477	4,231	210,774	57,841	25,771	...	...	...	...	...	709,370	77,301	...	3	...	135	Sir-daria.
Ferghána	1,229	...	344,023	11,580	19,852	7,060	70,107	...	343	...	126,006	...	...	182	...	370	Ferghána.
Zarafshán	3,838	...	132,138	67,862	140,154	...	...	...	...	...	695	...	...	...	2,211	352	Zarafshán.
Amu-daria	1,184	10	5	110	16,195	51,710	...	5,860	...	...	31,385	...	...	...	715	...	Amu-daria.
TOTAL	59,313	7,309	690,395	137,393	201,972	58,770	70,107	5,860	20,000	36,265	1,462,693	77,301	24,787	22,117	2,926	857	TOTAL.

The belief of the mass of the people (*i.e.*, 2,900,000) in Russian Turkistán is Muhammadanism; the male sex far outnumber the female; the population increases at the rate of 3 per cent. per annum.

Under Russian rule the relative positions as to numbers of the settled and nomad races becomes reversed; in 1867 the nomads comprised 70 to 80 per cent. of the entire population, whilst in 1877 they had sunk to 47 per cent.

The density of the Turkistán population amounts to only 7 per square mile; in Ferghána there are 26 and in Zarafshán 35 to the square mile. For every 1,000 inhabitants throughout the country we have 123 who dwell in towns, 410 settled away from towns, and 467 nomads.

For communications, Osh to Kashgar, see pages 396, 527.

FERGHÁNA PROVINCE.

The Ferghána province, or Khokand Khanate, resembles a vast ellipse, surrounded, except to the west, by lofty chains of terraced mountains, the Tian-shan. Four fifths of its area (28,000 to 30,000 miles) consist of mountains, and the remainder occupies the broad valley of the upper Jaxartes. Its greatest length is 160 miles and breadth 65 miles. Its surface is divided concentrically into three fertile and three sterile zones. Between Khokand and Varukh the traveller may hunger and thirst; between Osh and Uzgend he may starve his horse; between Andijan and Namangan both may suffer; and between Khokand and Khojend they may perish in the desert; whilst in each of these districts, at certain spots, may be tasted the most delicious fruits of the earth.

In the elevated portions of the province the temperature is very variable and the winds violent; the thermometer has been known to register 18° below freezing point in the shade, whilst in the sun it rose to 158°. The air is very dry. In the lowest zone of the valley the climate is tropical, in the middle it is temperate, and in the highest bracing.¹

The mountains are rich in minerals (iron, lead, coal, &c.), sulphur, naphtha and petroleum.

Ferghána, however, is less remarkable for its mineral than its vegetable products, which vary according to the different belts or zones.

The lands near the Sir are covered with tall herbs, often in patches, and with brambles. In the plains are poplars, willows, plane trees, and karagaches; fruit trees of all kinds, 16 sorts of grapes, and delicious melons of all sizes. Besides the usual cereals, they cultivate rice, maize, cotton, jugara, and lucerne of splendid growth. The jugara attains a height sufficient to form a hiding-place for men on horseback. The third and stony zone produces

¹ The heat of Marghilan goes up in summer in the shade to 104°. Osh has a more temperate climate than Marghilan, and a delicious temperature, the heat rising in July 1877 to 77°. It rains there in summer, and the gharmsol is unknown. In winter both these places are subject to cold, which often goes down to 5°, and in exceptional seasons to even 7° or 13°.

some unimportant gramineous plants, and here and there brambles and bushes. In the temperate zone one sees what may be called meadows, in the European sense of the word. The higher zones have vegetation of an alpine character, and sometimes pine forests.

At Namangan are native manufactories of cotton stuffs, 1,000 shops, and an annual sale of 300,000 sheep.

Produce is sent down the Sir on rafts. Marghilan, on account of its salubrity, has been chosen for the site of the new capital of the province. Goitre is very prevalent at Khokand, as well as fevers. Khokand is said to possess 60,000 inhabitants, Namangan 50,000, Marghilan 40,000, Andijan and Osh 20,000 each, and the whole province 730,000.

ZARAFSHÁN PROVINCE.

The Zarafshán province is a triangular valley, with its apex in the upper waters of the River Zarafshán, and extending east and west (along its upper and middle waters) about 250 miles, with the base of the triangle, 100 miles. One half of the province is mountainous; it is so called because of the prosperity diffused by its waters. On the Bukhariot frontier its waters are frozen for three weeks in January; though swift and copious in the mountains, it gradually becomes an exhausted stream.

Kohistán, or the Penjakend district, enjoys a fairly temperate climate, the cold rarely exceeding 5°, or the heat 89°. Speaking generally, the climate at Ura-Tiube, Jizakh, Samarkand, and Katte-Kurgan is, on account of their higher altitude, similar to that of Tashkend.

Spring begins in the middle of February, and lasts till the 15th April; summer and autumn linger on to the middle of November or even December. The climate is dry, and there blows in summer an east, and in winter a west, wind. The dusty gharmsol sometimes visits the valley and injures the crops, but storms are very rare. The temperature of Samarkand attains to a greater range, the cold descending to 2°·66 in February, and rising to 64°·22 in June.

The crops grown are rice, barley, wheat, and lucerne. Epidemics are rare. Leprosy is prevalent, and villages are set apart for lepers.

The peoples occupying the valley comprise Tajiks (aboriginal inhabitants 68,000), Uzbegs (140,000), Persians, Jews, Hindus, Bohemians, Afgháns, and Arabs.

In the three districts of Samarkand, Penjakend (45,000), and Katte-Kurgan are 215,000 native inhabitants (1872) (119,000 men, 96,000 women).

Most of the Zarafshán towns are connected by well-made highways. Besides the postal road to Tashkend there is another, with good stations and even stone bridges, to Katte-Kurgan. There is likewise a military road from Samarkand to Penjakend, and other roads to Karshi, Shahr-i-Sabz and Urgut. The most of these are carriageable, but even the byways in the Zarafshán province are relatively better than in other parts of Turkistán.

The Russians in the province numbered (1872) 6,500, of whom 5,600 were troops, chiefly found in Samarkand and Katte-Kurgan:

the former town contains 4,400 houses and 36,000 souls (Tajiks in the majority). In the province are 4,500 square miles of irrigated lands, and 36,000 of non-irrigated; the cultivated land throughout the country gives a twenty-fold crop.

The post-road to Bukhára goes *viá* Daul and Chimbai to Katte-Kurgan, on the frontier, 43 miles; for the 100 miles thence to Bukhára post-horses cannot be hired. A carriage road also goes to Karshi.

RUSSIAN OCCUPATION OF TURKISTÁN.

At Fort Raim or Aralsk the Russian Cossacks came in contact with the Khokandians and the Khivans. Both these peoples levi-d tribute of the Kazaks and Kirghese who wandered to the Sir from the north, where they had submitted to and been taxed by the Russians. The Khivans and Khokandians commenced a series of hostilities against the Russian invaders as protectors of the Kirghese, attacking detachments crossing the steppe, pillaging caravans, &c. For the protection of the Kirghese it was deemed necessary to occupy the upper course of the Sir-daria. This also helped them to get in rear of their turbulent subjects and surround them by connecting the Sir-daria line of forts with those pushed forward from the Irtish.

In 1853 the river was occupied to Fort Ak-Masjad; Fort Julek was destroyed, a steamer accompanying the troops; in 1861 the advance was pushed to Yani-Kurgan. In 1864, operating from Orenburg *viá* Perovsky with 9,000 men and from Vierny *viá* Aulie Ata, the Khokandians were driven out of Hazrat Turkistán and Chinkend, and the Russian force hitherto supplied from Orenburg entered an agricultural district where the troops could be supplied from local sources. In 1865 Tashkend was occupied. In 1866 Nau and Khojend were occupied. To hold the passes leading through the southern Khokand range, Forts Ura-Tiube and Jizakh were occupied, and later on Fort Yani-Kurgan. Peace was then treated for by Bukhára, but before its ratification, the Emir proclaiming a holy war, Samarkand was occupied in May 1868; Katte-Kurgan was occupied later on, and the Emir established in his present dominions.

II.—*Description of country on the Chinese side of the border, with a review of the military situation and requirements of the offensive and defensive.*

MONGOLIA.¹

Mongolia lies between lat. 37° and 54° N., and about long. 85° and 125 E.; bounded north by Siberia, north-east and east by Manchuria, south by the Chinese provinces of Cihli, Shansi, Shensi, Kansuh and Tibet, and west by

East Turkistán and Zungaria; area about 1,300,000 square miles; population about 2,500,000, of whom 500,000 are Chinese. It is chiefly a plain, about 3,000 feet above the sea, almost destitute of wood and water. In the central part the great sandy desert of Gobi stretches

Chief divisions and topographical features. north-east and south-west, occupying about a third of the entire area. The chief mountain

¹ *Asia; Temple. (See page 70 et seq., 664)*

ranges are the Altai, and its subordinate chains, which extend eastward under the names of Tangun-Oola and Kenteh, as far as the Amur; and the Ala-shan, In-shan, and Khingan ranges which commence about lat. 38° and long. 107°, and run north-east and north to the Amur, crossing into Manchuria. The rivers are chiefly in the north. The Selenga, Orkhon, and Tola unite and flow into Lake Baikal. The Kerulen and Onon rise near each other on opposite sides of the Kenteh range, and flow north-east to the Amur. In the south, the country south of the In-shan range is traversed by the Hoang-ho, or Yellow River. In the north-west part of the country lakes abound, the largest of which are the Ursa-nor, the Kosso-gol, and the Ike-aral.

Mongolia is divided into four principal regions : (1) Inner Mongolia, between the Great Wall and the desert of Gobi ; (2) Outer Mongolia, between the desert and the Altai mountains reaching from the Inner Kingan to the Tian-shan ; (3) the country west of the Ala-shan ; (4) Uliassutai and its dependencies. Inner Mongolia is divided into 6 corps and 24 tribes, which are subdivided into 49 standard, each com-

Tribes.

prising about 2,000 families, commanded by hereditary princes. The Kortchin (about 200,000) and the Ortoos (400,000) are the principal tribes. Another large tribe, the Tzakhars (180,000), occupy the region immediately north of the Great Wall. Outer Mongolia is divided into four circles, each of which is governed by a Khan or prince, who claims descent from Chenghis Khan. The Khalkas (250,000) are the principal tribe, and their four Khanates are divided into 86 standards, each of which is restricted to a particular territory. The country west of the Ala-shan is occupied by Torgots, Khoshots (120,000), Khalkas, and other tribes, arranged under 29 standards. Uliassutai is a town of 2,000 houses in the west part of Mongolia, and lies in a well-cultivated valley. (*See page 655.*)

Minerals.

Its dependent territories comprise 11 tribes of Khalkas, divided into 31 standards. Mongolia is supposed to be rich in metals and minerals.

Its immense plains and forests are inhabited by multitudes of wild

Fauna, &c.

animals, among which are the elk, the stag, the wild goat, the wild ass, the yak, the brown and black bear, the ounce, and two species of tiger, besides hares, squirrels, and foxes. The wolves of Mongolia are large and fierce ; they will pass through a flock of sheep to attack the shepherd. Among the birds are pheasants and eagles. The eagle is very common, and makes its nest where it pleases, the people never molesting it. The double-humped or Bactrian camel exists in both the wild and domesticated state, supplying excellent milk, and large quantities of butter and cheese. The soil of Mongolia is poor, and little of it is fit for cultivation, on account of the want of moisture,

Agriculture.

neither rain nor snow falling in sufficient quantities except on the acclivities of the mountain ranges. From the great elevation of the country, and the dryness of the atmosphere,

Climate.

the climate is excessively cold. Mercury in some parts often remains frozen for weeks in succession. The winter lasts nine months, and is immediately succeeded by summer, in which there are sometimes days of stifling

heat. The nights are almost invariably cool. At all seasons the weather is subject to great and sudden changes. In the southern part of the country, where Chinese immigrants have introduced agriculture, the temperature has risen with the increase of cultivation, so that kinds of grain which formerly would not ripen, because of the cold, are now raised with success. In this part of Mongolia villages

Chinese occupation.

are frequent, and a portion of the native race have adopted a settled life. The greater part of the Mongols, however, are gradually retiring towards the north, and the Chinese population is rapidly taking their place. The Mongols belong to the so-called Turanian, Mongolian, or Uralo-Altai division

Mongol family.

of mankind. Their branch, best designated as that of the Mongols proper, is composed of three families, of which the east Mongols are the inhabitants of the present territory of Mongolia; these are subdivided into Shara Mongols, occupying the southern portion, and the Khalka Mongols living in the north. (*See page 190.*) The west Mongols, comprising Kalmuks, Torgots, and others, were driven out of their land at the time of Chenghis Khan, and a portion of them now lead a nomadic life in the steppes between the Volga and the Ural, while the others dwell on the slopes of the Altai mountains, and are generally known as Black Kalmuks. On the Chinese frontier, in the region of the Lena, and from the Onon as far as the Oka, is found the third family, called Buriats. Some Mongols proper, still speaking a Mongolian dialect, inhabit the northern portion of Iran, where they are known as Aimaks or Hazarahs. Though the name of Tartars is generally applied also to Mongols proper, there can be no doubt that the Tartars form a distinct branch of the Mongolian or Turanian division. The present inhabitants of

Characteristics.

(*See page 252.*)

Mongolia are generally stout, squat, swarthy, and ugly with high and broad shoulders, pointed and prominent chins, long teeth, distant from each other, eyes black, elliptical and unsteady, thick short necks, bony and nervous hands, and short muscular arms. Their stature is equal to that of Europeans. They are, with few exceptions, nomadic, living in tents, and subsisting on animal food. The men conduct the flocks and herds to pasture. They sometimes hunt wild animals for food, or for their skins, but never for pleasure. When not on horseback, the men pass their time in absolute idleness, sleeping at night, and squatting all day in their tents, drinking tea or smoking. The only persons who learn to read are the lamas or priests, who are also the painters, sculptors, architects, and physicians of the nation. The Mongol is so accustomed to horseback, that when he sets foot on the ground his step is heavy and awkward, his legs bowed, his chest bent forward.

The chiefs of the Mongol tribes and all their blood relatives form an aristocracy, who hold the common people in a mild species of patriarchal servitude. There

Mongol aristocracy.

is no distinction of manners or of mode of living between these classes; and though the common people are not allowed to own land, they frequently accumulate considerable property in herds and flocks. Those who become

Serfs.

lamas are entirely free. The ancient religion of the Mongols was a species of Shamanism, but in the thirteenth century they embraced Lamaism. Their religious system at the present day is similar to that of Tibet, and they acknowledge the spiritual supremacy of the Grand Lama of Llassa. (*See pages 255, 318.*) Mongolia abounds in well-endowed lamaseries, constructed of brick and stone, with elegance and solidity, and ornamented with paintings, sculptures, and carvings. The most famous is that of Urga or the Great Kuren, on the bank of the River Tola, in the country of the Khalkas. Thousands of lamas dwell in this lamasery, and the plain adjoining it is always covered with the tents of pilgrims. In these lamaseries a strict monastic discipline is maintained, but each lama is at liberty to acquire property by any occupation not inconsistent with his priestly character. Nearly all younger sons of the free Mongols are devoted from infancy to the priesthood. Almost every lamasery of the first class has a living Buddha, who, like the Grand Lama of Tibet, is worshipped as an incarnation of the deity. The influence of these personages is very great, and the Chinese Emperors spare no pains to win over to their interest those who manage these deities.

The trade between China and Russia passes through Mongolia at Kiakhta, a town on the borders of the two countries. This trade, which is entirely under the supervision of Manchu officers, introduces among the Mongols European goods in moderate quantities.

The Mongolian language was reduced to writing about the fourteenth century. Its literature consists in great part of translations of Chinese books, but it embraces a few original histories and many poems, relating chiefly to Chengiz Khan and to Tamerlane.

The history of the Mongols properly commences with Chengiz Khan. At his birth (about 1160) the Mongols were divided into petty and discordant tribes.

He united them into one nation and led them forth to conquer the world. Under his banners they subjugated the whole of Tartary and a great part of China, Korea, Afghánistán, Persia, and Russia. Under his sons and successors the conquest of China was continued, the caliphate of Bagdad was overthrown, the Sultan of Iconiam in Asia Minor made tributary, and Europe overrun and devastated as far as the Oden and the Danube. The Mongol Empire was at this time the most extensive that the world has ever seen. Kublai Khan, the grandson of Chengiz, established the first Mongol dynasty in China (1279—1368), and conquered also Cochín-China and Tonquin. He is known in Chinese history as the Emperor She-tsu, and as the founder of the 24th or Zuen dynasty. (*See pages 310, 526.*) In 1368 the native race rose in insurrection and established their independence under the Ming dynasty. The Mongol empire was split into several independent sovereignties in the thirteenth century, but was re-united by Tamerlane in the fourteenth. After his death (1405) the Mongol power slowly declined, and in the early part of the seventeenth century the Mongols gradually submitted to the Manchu Emperors of China. But they yield little more than a nominal obedience. The Chinese Government watches and humours them with incessant anxiety

and conciliates their chiefs by annual presents of considerable value. (*See pages 664 et seq., and Preface, page xli.*) The Mongol Empire in India (Mogul), however, established by Tamerlane's descendant (Baber in 1526), lasted nominally till 1858. *See* Huc's "Travels in Tartary, Tibet, and China" (2 vols., 1852), and "Wolff's "Geschichte der Mongolen" (Breslau, 1872).

¹ MONGOLIA-GOBI.

The swampy Lob-nor district offers little interruption to the sweep of sandy wastes which stretch continuously across 40 degrees of the meridian from below the cities of Kashgar and Yarkand eastwards to the great Khingan range. The western section of this inhospitable wilderness, as far as Lake Lob, takes the name of the Takla Makan desert; the eastern thence to Manchuria that of the Great Gobi, or Shamo desert. But the whole forms essentially one geographic unit, and is by some writers spoken of simply as the Eastern and Western Gobi, or even as Eastern and Western Mongolia; for while the whole of this region forms, on the one hand, the true primeval home of the great Mongolian branch of the human family, it is, on the other, often difficult, at times even impossible, to say where Mongolia begins and Gobi ends.

Taken thus in its widest sense, Mongolia comprises the whole northern section of the Central Asiatic plateau between the Kuen-lun and Altai mountain systems. Towards the west the Tian-shan projects midway between these ranges eastwards, thus dividing the western portion into a northern and southern region, roughly indicated by the Chinese expressions, Tian-shan Pelu, and Tian-shan Nan-lu—that is, the Northern and Southern Tian-shan routes. By the use of these terms the Chinese people showed from the earliest times a surprising appreciation of the disposition of the land in Western Mongolia. In their eyes the Tian-shan, itself mostly impassable, clearly indicated the routes to be followed in order to penetrate into the Western World. But whereas the Nan-lu led, so to say, to a *cul de sac* at the eastern foot of the Pamir, the Pe-lu gave direct access through more than one depression to the Aralo-Caspian basin. Hence the vast importance to China of the extreme north-western portion of Mongolia, now commonly but most inconveniently spoken of as Zungaria; for within this region are comprised all the natural openings which, either through the Balkhash or the Irtish basins, lead from Central to Western Asia. (*See page 372.*)

Importance of Zungaria to China.

THE GOBI AND WEST MONGOLIA.

West Mongolia proper comprises the lowest plateau between the Altai and Tian-shan, and the eastern section of the region between the Tian-shan and Kuen-lun. Farther east the waterless and treeless plains of Gobi stretch from the Tola, a head stream of the

¹ *Asia*; Temple.

Selenga, south-eastwards to the Darkhanola range, which rises to an elevation of 5,000'. Here begins the extensive depression which reaches to the Mandal pass, 3,700 feet high. At the Olong Baishing ruins the land falls to a still lower level, and here is seen the so-called "Rocky Girdle," a natural rampart of syenite, stretching in a straight line east and west, and forming a clear landmark between North and Central Mongolia. South of this line begins the true desert of Gobi—the Shamo of the Chinese, the lowest points of which are found at Ergi, Ude, Durma, and Shabadurghuma. The higher grounds are in some places strewn with rubble and blocks of porphyry and jasper, besides chalcedony and cornelian, interspersed with saline plants. The depression itself consists not so much of drift-sand as of a sandy soil charged with alkalis, evidently the bed of a former marine basin, where still flourished the Arundinaceæ and nearly all the species common to the Caspian Sea. South of Durma the land again rises to the level of the shores of this dried-up Mediterranean, attaining at Tsugan-Balgasu an elevation of 4,550 feet—a height corresponding exactly with that of the northern edge of the basin at Urga. The plateau attains its greatest elevation towards the east, where it is cut off from Manchuria and the plains of Pechili by the intervening Khingan range and the highlands stretching thence south-westwards to the In-shan mountains. (*See details of journeys across the Gobi and Zungaria.*)

SOUTH-EAST MONGOLIA. (*For details see pages 207 et seq.*)

For the latest information regarding South-East Mongolia we are indebted to Colonel Prejvalski, who visited the Ordos and Ala-shan regions on his journey to Kuku-nor in 1871. Proceeding in a south-easterly direction from Kalgan, this intrepid explorer came upon the Inshan range, skirting the northern bend of the Hoang-ho. Even before leaving the Kiakhta caravan route, a change is perceptible in the aspect of the country. The hills become higher and more craggy, while grass becomes more scanty, the pasturage being succeeded still further west by extensive waterless valleys, where the nomads are entirely dependent on the wells dug at intervals along the route. The highest ranges are the Shara-Hada and Suma-Hada, wild and rugged uplands, where the traveller discovered the wild *ovis Argali* in flocks of as many as fifteen together. Further on, the Muni-ula range, over 7,000 feet high, forms, with the Hoang-ho, a well-defined landmark in the distribution of birds and mammalia. From these mountains the city of Bautu was reached, a large and busy but dirty place on the Hoangho, near the hill where the wife of Chenghis Khan is supposed to lie buried.

From Bautu the route lay across the Bagakhatun, southernmost and largest branch of the Hoang-ho, to the Ordos country, where the population is entirely confined to the Hoang-ho valley, for about 70 miles west of Bautu. On the left bank of the river lies the Ala-shan region, mostly a dreary lifeless waste of shifting sands, destitute alike of vegetation, birds, and mammals. The small tracts where the sand is mingled with the loam and alkalis produce a scanty but

peculiar vegetable growth. The Ala-shan range rises some 12 miles to the west of Din-yuang-ing, capital of the province and residence of a native "Wan," or prince. The range, about 140 or 150 miles long, rises everywhere abruptly above the Hoang-ho valley, and presents a decidedly alpine character, culminating southwards with Mount Bayan-Tsumbur, 10,600' high.

Farther north lies the domain of the Urutes, occupying all the country between the Ordos and the territory of the Chakhar and Khalkha Mongolians in Ala-shan. Here the land is undulating and even hilly, rising steadily to a height of 5,900', or 2,300' above the Ala-shan plains, and 2,500' above the Hoang-ho valley.

In a general way it may be stated that in the west—that is, in

Relief of the land.
(See pages 253 et seq.)

Tibet and Mongolia—the great ranges run mainly west and east, and assume somewhat the character of bold escarpments to the great central table-lands, which stretch at different elevations from the Himalayas northwards to the Altai. But in the east—that is, in China proper—the direction is rather north-east and south-west, and even north and south. Here also the tendency is, especially on the Tibetan and Indo-Chinese frontiers, to broaden out into extensive and irregular highland regions, in which the general direction of the main ridges is indicated by the course of the great rivers flowing from the Tibetan plateau to the Chinese and Indo-Chinese seaboard.

Thus, we have in the west the great Kuen-lun range, breaking away from the Karakorum and running under diverse names, such as the Tuguz-Daban (9,000' to 10,000'), the Altyn (13,500'), and Kilen-shan (Nan-shan, 13,600'), mainly west and east, along the northern edge of the Tibetan plateau, as far as the Chinese frontier, about the Tsaidam and Kuku-nor district.

The Altyn-tagh section of the system was one of the most surprising results of Prejvalski's expedition in 1877 to the Lob-nor; for this snowy range rises abruptly

Altyn-tagh.

to an elevation of 13,000' to 14,000', within 120 miles of the lake, where it was formerly supposed that the sands extended for several degrees of latitude southwards to the scarp of the Tibetan plateau. The discovery is of great importance as helping to explain many hitherto unintelligible passages in Chinese records in connection with the wars and migrations of the Huns and Mongols.

The Tsaidam plains are skirted on the south by the parallel Shuga (15,600') and Burkhan-Buddha (15,800') ranges, which seem to branch off from the Altyn south-eastwards, and are continued far into China proper between the Hoang-ho and Yang-tse valleys under the names of the Hsi-king-shan, Tsing-ling, Funin-shan, and Mu-ling. German orographers group these ranges collectively as the eastern Kuen-lun, of which they regard the Burkhan-Buddha¹ as the central and the Tuguz-daban and Altyn as the western section. The Kilen-shan or Nan-shan thus sinks to the

Eastern Kuen-lun.

¹ The Burkhan-Buddha, which, notwithstanding its great elevation, nowhere reaches the snow-line, runs for 130 miles along the northern edge of the Tibetan plateau and forms the southern limit of the marshy Tsaidam steppe.

position of a subordinate northern offshoot of the Kuen-lun system, which stretches from the Kizil-art (eastern Pamir range), with many interruptions, across North Tibet and Central China, for 2,700 miles eastwards to the lower Yang-tse-kiang.

Geologically the Kuen-lun, or at least its western section, is of far older date than the Himalayas. The prevailing rocks are syenitic gneiss and more recent triassic formations, whereas in the southern range is comprised the whole series between the palæozoic and eocene deposits. Hence the Kuen-lun, rather than the Himalayas, must be regarded as the eastern extension of the Hindu-Kush and the true backbone of the continent in this direction.

The Nan-shan is again continued north-eastwards, partly along the Great Wall of China through the snowy Kuliang and Liang-chau, the Ala-shan¹ (11,600'), the Khara Narin-ula, In-shan² Munni-ula (9,000'), Sirung Bulik, Suma-hada, Shara-hada, and other parallel ridges, to the head-waters of the Lohan at the converging point of Mongolia, Manchuria, and China, north of Peking. Here the system is gradually contracted till it forms a junction with the volcanic Great Khingan range, which runs between Mongolia and Manchuria due north to the Amur, near the confluence of the Argun and Shilka.

East of the Khingan, Manchuria is occupied in the north by the Ily-khuri-alin, and Duss-alin, skirting the right bank of the Amur, and by the Shanyan-alin (10,000' to 11,000'), forming the frontier towards Korea. This peninsula is mountainous throughout, and especially on the east side, where a coast-range, here and there flanked by parallel inner ridges, forms a southern extension of the Sikhota-alin coast-range of the Russian Maritime Province.

In China proper the provinces of Shan-si and Pechili are traversed by the Siwe-shan, Man-tu-shan, Tao-tsu-shan, running south-west and north-east from the Hoang-ho. Parallel with this system are the Utai-shan, Luyen-shan, Mian-shan, Niao-ling, and other ridges, filling the whole of Shan-si, and continued beyond the Hoang-ho by the Ming-shan and Sung-shan through North Ho-nan. Here a junction is effected with the Funin-shan section of the eastern Kuen-lun, which at this point forms the boundary between the provinces of Ho-nan and Hu-pe.

Between the Tarbagatai and Zungarian Ala-tau lies the depression of the so-called "Zungarian Strait," through which access is gained from Turkistán along the Sassik-kul, Ala-kul, Ebi-nor, Sir-nor, and other eastern extensions of the Balkhash lacustrine system into the Mongolian plateau. In the same way, between the Barluk-Orkochuk and Little Altai, lies the

Continuations of the Nan-shan. (See pages 258 et seq., 280.)

Mountains of Mongolia.

Mountains of Manchuria

Mountains of Shansi.

Means of access into Mongolia.

¹ The Ala-shan mountains rise abruptly above the left bank of the Hoang-ho and run for 150 miles north and south between Kan-su and the Ala-shan country, Mongolia. They culminate with Mount Bugutin (11,600'), but nowhere reach the snow-line.

² The natives do not know this name and have their own names for different parts of the range. In a wider sense the term "In-shan" applies to all the mountains from the northern bend of the Hoang-ho, through the Chakar country, to the confines of Manchuria. —(Prejvalski's "Mongolia," Vol. I, p. 153.)

valley of the Black Irtysh, which again gives access to North Mongolia through Lake Ulungur and River Urungu, for the valley of this river sweeps round the south-eastern extremity of the Little Altai to the Kobdo plateau, where it has its source. The Kobdo plateau itself stretches from the Little Altai beyond Lake Ubsa to the Tann-ola range, by which it is separated from the valleys of the upper Yenisei and Selenga. From this point the North Mongolian plateau is broken by no other prominent range, until we reach the Great Khingan, by which, as already stated, it is separated from Manchuria.

It also appears that the great Central Asiatic plateau consists in reality of several distinct sections, differing enormously in elevation and extent from each other. These sections are grouped round the central basin of the Tarim, which is in fact rather a depression than a plateau, falling to little over 1,600' (? Lob-nor is elevated 2,200') above sea-level.¹ South of it the land rises in successive stages from 3,000' to 6,000', 10,000' and 15,000', the probable mean altitude of the Tibetan plateau, at once the most elevated and extensive on the globe. Above this vast table-land the intersecting ranges attain altitudes of from 20,000' to 25,000', culminating in the southern scarp of the Himalayas with peaks ranging from 26,000' to 29,000', the highest summits on the surface of the earth.

North of the Tarim basin the land also rises in terraces of 3,000', 6,000', and 15,000', here culminating with the Tengri-khan (25,000'), the central and highest point of the Tian-shan. Beyond the Tian-shan the ground again falls gradually to about 1,500' in the Zungarian depression (Tian-shan Pe-lu), north of which it attains a height of 7,000' or 8,000' in the Kobdo plateau. (*See Route No. 7.*) This elevation is maintained in North Mongolia eastwards to the head-waters of the Amur. But in the central parts the Gobi desert stretches from Lob-nor at a mean height of probably not more than 3,000' to the Khingan range. Lastly, the closed basin of the Koko-nor between the Nan-shan and Burkhan-Buddha ranges stands at an altitude of not less than 10,500' above sea-level. (*See pages 261, 277 et seq.*)

The inland drainage, apart from the lacustrine basins of Tibet, is represented chiefly by the Ili, by the Ike-Aral, and Ubsa-nor basins of the Kobdo plateau and the Lob-nor of Kashgaria.

Of these inland systems that of the Lob-nor is by far the most extensive. This lake, the true position of which was first determined by Prejvalski in 1877, receives through the Tarim river nearly the whole drainage of the region variously known as "Chinese Turkistán," "Eastern Turkistán," "Kashgaria or Yeddi-shahr." Here the surrounding Tian-shan, Kizil-art, Karakorum, and Kuen-lun send down numerous streams, including the Ak-sai, Ugen, Shah-yar, Kashgar, Yarkand darias or rivers, and Yurunkash (Khotan), (*see page 540*), all of which are collected by

¹ At Tok-sun Colonel Bell's barometer read 29.9", temperature 80°, giving an altitude above sea-level of 350', about. Some 10 miles to its south its stream loses itself in a lake or swamp, where the elevation is probably but little above the sea-level. This indicates a considerable rise southwards of Toksun; probably a long gentle slope to the prolongations of the Kuruktagh eastwards.

the Tarim and carried through a still imperfectly-explored course to the Karaburan, or west end of Lake Lob. The Tarim also receives from the north the discharge of Lake Bagrach through the Konchedaria (Kaidu-gol), which forces a passage through the intervening Karuk-tagh ridge. But the Cherchen-daria, rising in the Tuguz-daban (western Kuen-lun), flows through the sands intermittently from the south, directly to the lake at the Tarim confluence.

At the Ugen-daria junction, the Tarim, which the natives call the Yarkand-daria from its chief head-stream, is from 350' to 400' wide, with a depth of 20'. Lower down it throws off the Kio-k-ala-daria, which, after a course of 75 miles, in an independent channel, 150' wide, again joins the main stream, 60 miles above its mouth. Much of its water is drawn off to irrigate the surrounding "tara," or fields, whence the name of Tarim, now applied to the river itself. (See pages 486 et seq.)

The lake consists of two sections, Kara-buran, about 18 miles long, and Kara-karchin, or Chou-kul, 50 to 60 miles long, and nowhere more than 12 miles wide. Both are connected by the channel of the Tarim, and seem to be little more than 3' or 4' deep, except at the junction, where the Tarim is 14' deep and 125' wide, with a velocity of 170' per minute. The whole basin is little more than a flooded morass, choked with reeds, and gradually disappearing eastwards in saline marshes. But the lake itself was found by Prejvalski to be fresh and well stocked with carp and maræna (*Coregonus maræna*). The whole of Lob-nor is equally shallow; only here and there occur occasional pools, 10' to 13' deep. But the fact that almost all the lakes of Central Asia show signs of desiccation is well known (Prejvalski's "Lob-nor," p. 100). (See pages 332, 615.)

The term "Lob-nor" is applied by the natives to the whole course of the lower Tarim, the lake itself generally taking the name of Chou-kul, or "Great Lake."

The Ili is partly a Russian and partly a Chinese river, and its valley forms one of the weak strategical points of the Chinese Empire, for the upper course of the Kunges leads beyond the Narat pass (9,800') between the Odon-kura and Katun-daban, spurs of the Tian-shan, eastwards to the Mongolian plateau. (See page 603.)

iii. The Hoang-ho. The Hoang-ho is supposed to rise in the springs known as the Sing-su-hai, or "Starry Sea," on the Odon-tala plain in the Tangut country, south of the Burkhan-Buddha, or central Kuen-lun range. It is remarkable not only for its extremely circuitous course, but also for its tendency to break through formidable water-partings and to shift its channel from epoch to epoch. It flows first north-east and east along the southern base of the Tsi-shi-shan ridge, beyond which it sweeps suddenly round west and north to the Burkhan-Buddha, through which it forces a passage, as if determined to enter Kuku-nor. But here its course is deflected east to Lan-chow-fu in Kansu, close under the Great Wall of China. At this point it makes a tremendous bend along the east slope of the Ala-shan and south foot of the In-shan, round the Ordos peninsula, north-east and south to the Funin-shan,

or eastern Kuen-lun range.¹ Failing to break through this barrier into the Yang-tse basin, its course is turned at Tung-kwan abruptly east to Lung-men-kow in Ho-nan.

At this point begin the extraordinary shiftings of its lower course, which for their vast extent and destructive character are altogether elsewhere unparalleled. (*See pages 56, 154.*)

Its upper course is joined by the Ta-tung-ho, flowing from the southern slopes of the Nan-shan. This river, which flows through a very mountainous region, has not yet been thoroughly explored, although crossed at several points by Prejvalski during his excursion to Kuku-nor.

Ta-tung-ho.

This great lake, although approached from the south by the Hoang-ho and on the north by the Ta-tung, is none the less a closed basin, standing 10,500' above sea-level in the Tangut country, which is a sort of debatable land between China, Mongolia, and Tibet. The lake, which has the form of an ellipse over 200 miles in circumference and 2,300 square miles in extent, is very salt, and of an exquisite dark-blue colour, compared by the Mongolians to blue silk. The shores are flat and shelving, but towards the west is a rocky island. (*See page 263.*)

Kuku-nor.

Although now a closed basin, the Kuku-nor seems to have formerly communicated westwards with a long-vanished lake, the largest in all Tibet, which filled the whole of the Tsaidam plain between the Nan-shan and Burkhan-Buddha, north and south. This swampy region is now traversed by several streams, the chief of which is the Bayan-gol ("Rich River"), or Tsaidam, which flows for some 200 miles in a north-westerly direction, at last losing itself in the Dabsun-nor marshes. Here is a depression between the Altyn and Nan-shan, through which the former Lake Tsaidam must have sent its superfluous waters north-west to the Lob-nor basin. The gradual isolation of all these basins affords one of the most striking illustrations of the process of desiccation that has been

Desiccation.

going on throughout Central Asia from the remotest times. First the Kuku-nor fails to reach the Tsaidam; then the Tsaidam ceases to communicate with Lob-nor, and ultimately dries up, while Lob-nor sinks to a mere reedy morass, some 3 or 4' deep, and the thickly-peopled plains of the Tarim basin are converted into the Takla Makán sandy waste. (*See page 285.*)

Some 70 miles south of the Shuga range the Hoang-ho basin is separated from that of the Murui-ussu, or upper Yang-tse-kiang, by the Baian-kara-ula ("Rich Black Mountains"), which under various names runs about 450 miles east and west, without anywhere reaching the snow-line. But towards the north-west this range is connected with the Kuen-lun by the snowy Gurbu-naiji, whence flows the Napchitai-ulan-Muren, a chief head-stream of the Yang-tse. The confluence of these rivers (94° E. long. and 34° 50' N. lat.) marks the limit of Prejvalski's expedition to the Kuku-nor in 1871-73, when he was obliged to retrace his steps, unable either to reach Llassa or the actual source of the Yang-tse. At the confluence he found this river already 750' broad, and flowing in a bed over a mile wide, which,

¹ Prejvalski, however, who again visited the upper Hoang-ho in 1880. throws some doubt upon the reality of this sudden bend, as usually represented on the maps.

as our guide assured us, "is entirely covered with water during the rainy season in summer, when it sometimes even overflows the banks" (ii, 221). The first ford, even after the subsidence in autumn, lies 20 miles above the confluence, and the actual source of the main stream is said to be in the Tang-la mountains, a ten days' march farther up. From this point the Muru-ussu, or "Winding Water," flows east and south to its junction with its great tributary the Min, at Su-chau-fu, and the Chinese, who regard the Min as the true head-stream, call the other branch Kinsha-kiang ("Gold-sand River") from its source to the confluence.

The basin of the Tarim river forms the western section of the relatively low Central Asiatic plateau, which the Chinese geographers styled the Han-hai, or "Dried-up Sea." From the Pamir to Lob-nor it stretches west and east about 900 miles, with a mean breadth of 500 miles between the Tian-shan and Kuen-lun ranges. Its prevailing character is that of a vast sandy plain, enclosed north, west, and south, by a horse-shoe-shaped rampart of the loftiest and grandest mountains, rising in ridges of 18,000' to 20,000', with peaks shooting up to 25,000' and even 28,000'. From the snows and glaciers of these highlands rush down the streams which flow through the common bed of the Tarim to Lob-nor. (*See pages 419, 486, 369 et seq.*)

The open approach to the east afforded in former times easy means of access to migrating nomad tribes and military expeditions from China and Mongolia. Along the northern and southern edges of the basin there lie at intervals the remains of fertile oases, such as the Lop, Charchand (Cherchen), Kiria, Khotan, on the southern route, and Hami (Khamil), Kuchar, Aksu, on the north, some of which were of great extent and importance. ² But the sands driving before the winds in ceaseless billows, from the eastern Gobi, have gradually encroached on the cultivated lands, swallowing up populous and flourishing cities, memorials of which are still found in the gold and silver ornaments, and even in the "bricks of tea" constantly exhumed at certain spots. Extensive ruins of cities are known to exist in the Lob district.

The whole basin comprises four natural divisions—highlands, lowlands, deserts, and swamp or lacustrine tracts. The first include the plateaux and deep valleys of the encircling ranges, barren hill slopes, rich pastures on the more level portions, but with a general deficiency of vegetable and animal life (more especially in the southern ranges). The lowlands comprise the strip of country intervening between the mountains and the desert. This is the only permanently settled and cultivated portion of the country, extensively irrigated and brought under cultivation in the vicinity of the Khotan, Yarkand, Kashgar, and Aksu rivers, where there are some exceptionally fertile tracts.

But most of the Tarim basin consists of an undulating plain of shifting sands, sloping gradually eastwards from 4,000' to 2,000', and traversed by the various rivers flowing to the Tarim. The banks of

¹ *Asia*; Temple.

² This remark applies to the Lob, Charchand, Nia line only; along the Nan-lu and the line Yarkand. Khotan no drifting sand is met with; nor is Hami troubled with it. The deserts are chiefly of gravel.—*M. S. B.*

these streams are, at various parts of their course, fringed by strips of fir, poplar, willow, and tamarisk forest, interspersed with dense growths of tall reeds and grass. But all the rest is an inhospitable waste, with a deep coating of loose sandy or saline soil, impracticable alike to man and horse.

The swamps and Lakes Lob, Bagrach, Yeshil-kul, and Karga, are formed by the overflow of the rivers, and are unhealthy tracts, overgrown with reeds and swarming with water-fowl. The poplar woods with their bare soil, covered only in autumn with fallen leaves, parched and shrivelled with the dry heat, withered branches and prostrate trees, encumber the ground.

"But cheerless as these woods are, the neighbouring desert is even more dreary. Nothing can exceed the monotony of the scenery." (Prjevalski, "Lob-nor," *p. 60.*)

The whole of the Khotan district, and especially the neighbouring Kuen-lun mountains, abound in gold, silver, iron, lead, copper, antimony, salt, saltpetre, sulphur, soda, and coal. Gold and precious stones are chiefly found in the beds of streams, and the Kappa, Sorghak, and other auriferous districts of Khotan, are said to employ 7,000 hands, with an annual yield of nearly 80 cwts. Its transport to India is generally a very lucrative venture, bringing in profits of from 20 to 24 per cent.

Silk is cultivated in Khotan, but, notwithstanding its good quality, a defective method of reeling renders it of little use for the export trade. It is employed with wool and gold thread in the manufacture of the Khotan carpets, which are made from patterns usually handed down from master to pupil. A renowned product and former article of manufacture is jade, found only in Khotan and the northern Kuen-lun valleys. Here there is a plentiful supply, especially from the quarries in the Karakash valley and south of Khotan. It was carried far and wide in mediæval times, and jade implements have been picked up even in Western Europe. The Yu-men, or "Jade Gate," in the Great Wall in North-West Kansuh, seems to have been named from the jade caravans which passed that way to China.

The climatic conditions are essentially different in Central and East Asia. Considerable uniformity prevails on the lofty Tibetan plateau, and the less elevated plains of Mongolia, where the prevailing features are great extremes of heat and cold, combined with excessive dryness. But the Hoang-ho and Yang-tse basins, being exposed to the soft moisture-bearing winds from the Pacific, enjoy a far more equable temperature. Here the winters are doubtless severe in the north, the summers hot in the south; but there are nowhere such extreme vicissitudes as are characteristic of strictly continental climates, while there is nearly everywhere a sufficient rainfall.

At the same time the copious rains would appear to extend much further inland than is commonly supposed, embracing not only the region of the "Cross Ridges" on the Tibeto-Chinese frontier, but even the Ala-shan highlands of South-East Mongolia. Here Prejvalski was more than once overtaken by tremendous downpours of quite a tropical character. This was in the month of July, and in a district

usually included within the rainless zone of the Gobi.¹ But the explanation lies in the direction of the Indo-Chinese ranges and East Tibetan "Cross Ridges," which run south and north, or south-east and north-west, thus giving free access to the rain-clouds from the Indian Ocean and China Sea, far into the interior of the continent. This orographic disposition also serves to account for the extraordinary number of large rivers which here take their rise, and which have in the course of ages cut up the East Tibetan plateau with so many independent water-courses. The mountains which are not upheavals, but the result of fluvial action, grew, so to say, hand in hand with the rainfall, resulting in an intricate highland river system elsewhere unparalleled.

Further west, such is the extreme dryness that for months together not a single snow-flake will fall on the elevated Tibetan plateau. It is a remarkable fact that the snow-line descends much lower on the southern than on the northern slopes of the Himalayas, where Forsyth found the Cayley pass quite free at an elevation of over 19,000'. Owing to this absence of moisture the passes between Kashmír and Yarkand are open throughout the year. But, notwithstanding the absence of snow, the cold is not the less intense, and this, combined with the "mountain sickness," produced by the extreme rarefaction of the air, causes great sufferings to travellers and animals in winter. Even in summer the streams often freeze.

In the Tarim basin and West Mongolia the air is also extremely dry. Here there is scarcely any spring, intensely cold and late winters being followed almost immediately by equally intense heat, when the glass rises even in April to 93° F. in the shade (*Prejvalski*). In East Mongolia the spring is also cut up by late frosts, lasting even into May, when still water sometimes freezes an inch thick during the night. Here the sudden changes of temperature are very trying, and north-westerly gales prevail for weeks together, obscuring the sun's rays and filling the air with clouds of sand, mixed with fine particles of salt from the saline marshes. Steppe storms rage at times with great violence, during which even the camels accustomed to the desert, would turn their back to the storm, and wait till its fury had abated.²

Notwithstanding its scanty vegetation, Tibet, which by some naturalists is regarded as the chief centre of evolution for animal life, possesses a fauna of extraordinary richness. In the west, Nain Singh met the antelope in herds of as many as 2,000 bounding over the plains. Here the yak, gazelle, wild goat, various species of sheep, wild ass, fox, jackal, wild dog, white wolf, and even a white bear, resembling the polar bear in appearance, are amongst the most characteristic animals. But the avifauna is poor, chiefly comprising the eagle, vulture, raven, but no singing birds. In East Tibet numerous herds of buffaloes are preyed upon by the wolf and panther. The musk-deer is found as high as 8,500', while the monkey and squirrel here form the transi-

¹ See remarks, details An-si-chow to Hami, indicating a heavy rainfall in the Gobi, north of An-si-chow.—*M. S. B.*

² *Prejvalski's "Mongolia,"* Vol. I, p. 119.

tion to the Indian fauna. Amongst the birds are the pheasant and lark, which latter soars to a height of 15,000'.

The Tibetans have domesticated the yak, sheep, and horse as beasts of burden. The sheep carries loads of 20 to 30lb over the highest passes, and from the yak, and Indian zebu, the dzo, a useful cross-breed has been obtained, which, however, reverts after the fourth generation to the original types. There is a formidable species of watchdog, which degenerates in India, but has been acclimatised in England. But of all the animals the most valuable is the goat, whose soft down (*pashm*), growing under the outer coating, supplies the material for the finest Kashmir shawls.

Amongst the wild animals of the Tarim basin and South Mongolia are the wild boar, tiger, antelope, and hare. The wild camel was formerly common in the Lob district and along the Altyn tagh range, but is now almost entirely confined to the desert tracts east of the Tarim. Unlike the domestic species, the wild variety is remarkable for its sagacity and highly-developed sense of smell, sight, and hearing. It will climb the most inaccessible places, and when once it takes to flight will run for 20 or 30 miles at a stretch.

A notable feature of the Lob, Dalai, and other great steppe lakes, are the birds of passage which alight at these halting-places on their long journeys north and south in the spring and autumn.

In Tibet the population is mainly confined to the San-po basin; in Mongolia to the northern and eastern edges of the Gobi desert; in the Tarim basin to the middle courses of the Kashgar, Yarkand, and Aksu rivers. In China the great river valleys are amongst the most densely-peopled regions on the globe, and even the most inaccessible highlands on the Indo-Chinese and Tibetan frontiers are occupied by numerous hill tribes.

Apart from these hill tribes, whose affinities are still largely undetermined, all the inhabitants of the empire, except the few Iranians of Kashgaria and Zungaria, and Malays of Formosa, belong physically to various branches of the great Mongolo-Tatar family.

In the Ili basin, where whole populations have been more than once extirpated by fire and sword, the Taranchis, Tungans, Solons, and other immigrants from Kashgaria, Kansuh, and Manchuria, present the most varied types with almost every shade of transition between the fair and yellow stocks. The Taldi seem to be half-caste Chinese and Mongolians, the Salars a mixed Tibetan and Túrki people, the Kashgarians a curious blending of Túrki and Iranian, the Tanguts a still more remarkable fusion of Tibetan, Mongol, and Chinese elements. (*See pages 293 et seq. 603 et seq.*)

In Mongolia the population is essentially nomadic, their wealth consisting in herds of horned cattle, sheep, horses, and camels. The climate is very severe, with great extremes of heat and cold. The drought is very great; rain falls rarely and in small quantities. The surface is for the most part a hard, stony desert, areas of blown sand occurring but exceptionally. There are few towns or settled villages, except along the slopes of the higher mountains, on which the rain falls more abundantly, or the melting snow supplies streams for irrigation. It is only in such

Population.

Climate and people.

situations that cultivated lands are found, and beyond them trees are hardly to be seen.

MONGOLIA AND SIBERIA.

The Mongolian desert is most frequently crossed between Kalgan and Urga, Kuei-hwa-cheng and Uliassutai, and Kuei-hwa-cheng and Barkul. It is also crossed between Kalgan and Aigun. A few words describing the first three of these routes and that from Dinyuan to Kalgan will give a good general idea of the length and breadth of Mongolia.

Leaving Kalgan, the traveller, after a few hours, has worked through the line of hills which bounds China, and is on the borders of the high plateau where Mongolia commences. "While the carts were slowly ascending, I have taken a last look backwards; in one direction a chaos of hills, dull-coloured and bare, fills the area from my feet almost into the distance; they are

September and November.—(Shepherd.) of equal height, seamed with water-courses and jumbled together in wild confusion; no large valleys divide them into groups, no greater prominence supplies a landmark, neither bold rock nor landslip scar their sides. These hills must once have formed part of the plateau whose edge has gradually receded; rain has washed away vegetation and channelled out ravines, giving the appearance of hills rising from lower ground, where the converse has been nature's work. The country in front appears a wide down; smooth slopes rise and fall on every side, unmarked by water-course or tree, scarcely roughened by occasional outcrops of rock; there is no means of measuring distance, the eye overlooks the plain, striving to rest on some outline, but finds itself transferred from one fold of ground to another till it loses all power of discrimination in the grey distance of the horizon: two or three cart-tracks wandering towards no visible goals add little to a material definition of the landscape; on the left hand only, skirting the edge of the plateau, the line of the Great Wall is traced by a grass-grown mound and by crumbling towers. Advancing further, you find that the country is not quite uninhabited; the few huts we come across are built of stones and are tenanted by Chinese emigrants, who are overflowing the borders of their own land on this side, as well as from the sea-coast; for 200 miles to the south-west they are establishing themselves, trading, tilling, or flock-tending, necessarily ousting the Mongolians. Many of these settlers marry women of the country; their half-breed progeny assume outwardly a Chinese appearance, but adopt, as the Chinese emigrants themselves do, Mongolian habits. The soil is shallow, light, and mixed with small stones; oats are a common crop; potatoes and seeds are also grown; the fields are chosen just so far as the ground appears fertile; they are straggling in outline, without fences, poorly tilled, and rarely exist in any large contiguous extent; when the soil is exhausted the fields are deserted and revert to pasturage. The sweat of the brow is not much honoured in these parts; an easy life in the saddle, with plenty of meat, is preferred to the more toilsome labours of agriculture. Quite at first after entering Mongolia, one or two diminutive

villages dot the road into stages, but by ever-increasing steps signs of man disappear; the hills behind us and the Great Wall have sunk below the horizon; there is seldom an animal on the plain, or a bird in the sky; our small company has the whole road to itself during intervals of an hour; the travellers we meet are mostly parties of horse-dealers, each riding a pony and leading two others. Towards evening we see felt tents in the distance, a rider charges down upon us; he speaks a few words to the cartman, circles round, takes a good stare at the Russian, and then gallops off whence he came; we follow in his tracks, and about sunset leave the road to pull

General characteristics of Mongolia. up at a Mongolian encampment, with its yourts, camels, and watch-dogs, emblems of the nomadic life.

The round felt tents, which the Mongols call '*ghirr*,' are on precisely the same plan here as those I had seen formerly at Astrakan and noticed subsequently among the Tarvars of Siberia—a wide range of country for one pattern of domicile. An encampment seldom consists of more than two or three such tents; a little space in front of them stand two upright sticks, 20 feet apart, with a rope across, to which the bridles of ponies are tied; close by is seen a cask on wheels to fetch water, and a crate or two for collecting argols for fuel; behind the tents are stacks of argols (dried manure, principally of camels) and a hole to serve as a general dust-bin; around the tents the ground is bare from the tramping of sheep, and is littered with their droppings, with rags, bones, and tufts of wool; in the day-time the living beings are a few sheep and lambs, unable to follow the flock, and two or three dogs whose barking brings out the children and the mistress. This, repeated at intervals, was the home of the people along the road, varying only in size according to the well-being of the owners.

"The desert being like the sea, is more than a phrase, and one feels the similarity almost from the start; we cross it in a general track, and where we finish we lie-to; how can there be a choice when all around is alike a level green surface?

"The camels get a drink of water every second day, and for the rest draw upon the resources stored in their humps.

"So we voyage onward evenly and smoothly, a bright sun, a clear blue heaven, and a fresh lively breeze; some trifle, now and again, demands our attention, but most of the day we move along placidly and pleasantly, hour after hour, without change of face or of scene beyond the varying surface and shifting shadows.

"The eye ranges from one gentle undulation to the next; on one side the ground may slope away as if here the world ended with a dip into space; while, on the other hand, the plain extends as far as you can see, light brown or a yellowish green, till it fades and melts into a long horizon line of dusky grey. Not a stone nor a bush rises out of this level surface, no moving object breaks the charm of perfect tranquillity. Across this plain the road is marked by a wavy stain, but it needs only the will to change your course and travel in any direction. The desert is not altogether silent and dead; we generally find a well and a few yourts for our halts, and pass a few flocks during the march.

“But now let me describe the camp. The camels are led off the road to some smooth and clean spot, not too far from water. They are relieved of their loads and set adrift; a basketful of argols is then requisitioned from the nearest yourt.

Camp.

“In the parts where water is scarce, the scene close round the well is lively enough; the herdsmen in turn haul up the water by a leathern bucket at the end of a stick, about 10 feet long, and dip it into a trough, round which the animals in their particular charge scramble for a drink; at short intervals apart stand flocks of sheep and herds of cattle or ponies, eager for their turn, and therefore difficult to be kept separate; there is much galloping and shouting, as each flock is moved. It is not quite clear why more wells do not exist. The sites chosen offered apparently no difference from the country in general; the cost of digging must be very small; spring-level is at no great depth, and the soil stands without any lining. The well was generally very narrow, with a few big stones over the mouth and a wooden trough; but for the puddle and the foot-marks of animals, you might easily pass by without guessing its valuable existence.

Wells.

“As we travel north into the heart of the desert we see fewer ponies and sheep, cattle also grow scarcer, but camels are on the increase. *Ghirrs* are at longer intervals and excessively poor, water is scarce and has at times to be carried forward; the country is at its deadest level; the few ridges and outcrops of stone, met in the first marches, have disappeared entirely; the grass is not so luxuriant, the surface of the ground is covered with glittering pebbles. On the 13th we pass a dried-up marsh, whence soda is obtained and carried into China in long lines of two-wheeled carts, each drawn by a single bullock.

“There can be little doubt that these steppes were once under the sea; the ground is littered with water-worn pebbles, precisely similar to those on our shores, but everywhere grass grows. There is no bare ground; the word ‘desert,’ implying barrenness, seems inappropriate, judged by the appearance of the land during our crossing. Grazing is not so luxuriant

Grazing.

in the central part as towards either frontier, but nowhere would animals be without food; as to water, although at starting I was supplied with two casks, I scarcely needed their use, twenty-four hours being the longest time without reaching a well on the route I followed. There may possibly be greater scarcity in other seasons, but it seemed not at all unlikely that want of wells, not want of water, was the great difficulty. The Mongols of this central

Barren region.

barren region were markedly inferior in well-being as compared with those left behind; their dress was scant and dirty, their yourts small and smoke-blackened, and to avoid the visits of travellers, rarely pitched within a moderate distance of the road.

“Mutton, always excellent, was not expensive; a sheep was easily obtained for about 10 shillings. The end of our first march was to be Urga; we plodded happily and carelessly along, with generally fine weather, when four days off, the sky suddenly changed, and we

experienced a severe wind and hail-storm, followed by snow. The camels, nearly worn out by this time, moved wearily under this added tribulation. The following days the whole country was white, without break of any sort, the wind from the north cutting as a knife, but the sun shining. Camping in the open was no longer possible, and at each stage we sought cover with the friendly Mongols.

"Inside their homes it was cosy enough; the people were fairly well off and wood fuel was available; in the centre of the hut a bright fire, raised high on a heap of ashes, flamed out a welcome and cheered our numbed limbs; to pass in and out the door was troublesome, as the watch-dogs would fly furiously at the strangers; they seldom actually bite.

"Not only has the climate changed, but the country is no longer table-land; we entered by a rocky pass, among low smooth hills, and now see before us a long chain of bolder outline, whose crests are fringed with pine woods and on which no snow is lying. The 24th of September saw us in the valley of Urga, a warm snug spot, fertile, compared with the desert left behind; the people are richer, their yurts more pretentious, and sufficiently numerous in places to form small villages.

"Bouriats here take over the tea from the camel caravans, are carrying it onwards in carts, the horses harnessed with high green painted yokes in the Russian fashion.

"From Urga onwards the distinctive character of Mongolian scenery is lost; here long valleys lie between ranges of lightly-wooded hills; the soil is rich, grass grows luxuriantly, there is some cultivation and stacking of fodder, water is plentiful, and yurts within short distances of each other. The inhabitants of this more northern portion are fairer in complexion and better looking than those nearer China; both men and women are often handsomely clothed, yellow silk hats, silk cloaks and boots of black Russian leather, piped with green; the women's dress is puffed out at the shoulder, the sleeve tight and of a bright vermillion; their head-dress is a silver fringe on the brow, the hair, divided exactly over the head, drops in a single band on either side of the face; these bands are stiffened and flattened out by cross-bars of silver, the ends of the hair are plaited, hung with jingling silver ornaments and finished off with a rouble; the result is pleasing enough. As we wind northwards, the road traverses a country becoming gradually more hilly and forested; the view was much enlivened by the contrast of the white bark and golden leaves of the birch, with the dark foliage and brown stems of the pines; beneath the trees the brushwood has clothed itself in the glorious purple and orange tints of autumn; the grass is a luxuriant carpet, woven in patches of green and bright brown; the stiffer slopes of the hills, laid bare of soil, show a clean grey rock, smeared with daubs of yellow lichens and marked along its crevices and ledges with pink tufts of weeds. One of these valleys was perhaps the most lovely type of peaceful calm which ever invited man to live in its beautiful solitude, to taste for once the sweets of perfect repose, to drop the

Relative condition of the Mongols.

Nearing Urga,

North of Urga,

cares of busy life and pass a short space in a close association with nature in her most charming mood.

"It is well, however, to stop short at the day-dream ; after autumn comes winter, and even a Mongol must often impatiently curse the five months of hardship and imprisonment which follow, nor find consolation in the transient beauty of his Indian summer.

"Before us, the road follows for a time the banks of the modest streamlet, then mounts and disappears among the trees which cover the crest ; except a few birds we are the only moving creatures in this little paradise. There are many such nooks, lovely still, though the trees are nearly devoid of leaves. Once or twice, in some sheltered glen, a small clump of trees has preserved an almost summer dress, but usually the valleys and lower slopes keep their covering of grass, the crest of the hills is a maze of pines, and the streams fringed with dwarfed birches, revelling in every tint of brilliant colouring.

"It took six days to travel from Urga to Kiakhta ; a longer halt than usual was considered necessary during noon on account of the effect of the heat on the camels, whose coats, wool inches thick, were a heavy burden in such weather.

"The weather has grown quite mild again, and I enjoy, as at starting, an *al fresco* camp life.

"On the 2nd October we reach Mah-ma-chin ; here I must give up my Chinese passport."

At this compound town of Kiakhta and Mah-ma-chin a great deal of trade is done ; though both are small, and at the extremities of two empires, they are each of a distinct type, and present outwardly an amusing contrast of Russian and Chinese civilisation, neither borrowing visibly from its neighbour. The people of the two nations get on exceedingly well together, the same classes on either side fraternising in a way somewhat surprising to an English observer ; Chinese merchants visit the Russians freely, walk into their houses, drink tea, smoke cigarettes, and chatter in a broken softened Russian on the most even terms.

The desert halting-places are selected with a view to water. There is no scarcity of water in the desert, but a stranger would be sorely puzzled to find it. The Mongols have an instinctive knowledge of the country. For some distance from China into Mongolia it is a succession of plains, and gentle undulations, much resembling the long swell of the ocean, and, here and there, the country is rough and hilly. The undulations stretch

across the track from east to west. After two days the good pastures and numerous herds of cattle are left behind, and a very desert country, with only scrub grass, is entered. No horses nor cattle are seen here, and it seems only capable of supporting sheep and camels. The Mongols are a pitiable set on foot, with their loose clumsy leather boots, but they are at home on horseback. They drink liberally when they have a chance. Sycee silver is not in use, their only real currency being the coarse brick tea. The Mongols are muscularly weak, owing to the want of due proportion

Kiakhta.

Water.—(*Michie.*)

Pasture.

Mongols.

in the elements of diet, and this in spite of the abundant supply of mutton as a food and the bracing air of the desert. The coolies of China and Japan greatly excel them in feats of strength, and in powers of endurance, even on a rice diet. The Mongols can fast for long periods, and undergo great riding exertion with little sleep. They are cheery and light-hearted, and laugh at hardships. They are undoubtedly a fine race, and they make excellent soldiers. (*See pages 314 et seq.*)

Before reaching the Ulin-Iha-bha mountains the only ones deserving the name between Kalgan and Kiakhta, the road rises from 3,700 to 4,900' and passes over them by an easy pass: the face of the country then changes, becoming more grassy and broken.

¹ Travellers generally ride in camel-carts, the journey taking thirty days, at a cost of one hundred silver roubles, or less, inclusive of provision of tent, fire, and water. Two days out of Kiakhta numerous lines of hills, running east and west, are crossed. Steep and barren on their south slopes, the gentle north slopes are well clothed with trees and other vegetation. Three days out the Makatah pass is crossed, and later on, the Olindowa pass and Gatinawa pass close to Urga. To the south of Urga trees soon cease. The temperature on a December afternoon is 15° R. (F. 66°, about), and at night 22° R. (F. 82°, about.)

During the winter the camel-caravans march at night, starting at 8 to 9 P.M., and travelling till 12 to 3 o'clock in the afternoon. (*See page 653.*) Two days south of Urga the country is hilly, but smooth in outline; on the third a great plain is met, well covered with grass, and the hills are rugged. Herds of cattle, sheep, and ponies are met here.

The only advantage of winter travelling is being able to obtain plenty of water, either from snow or ice.

On about the seventh day out from Kiakhta the village of Tech-sha-bunita is passed, and also Kuistelooe; about the thirteenth day out the country becomes very stony, vegetation scantier, and the country flatter. After passing Haila, yourts, herds of horses, &c., become more common on the flat plain. South of Pogon, to which place Chinese emigrants have

pushed, cultivation begins. Passing through Tourgeourta, a small village in the hills, the plains are left behind, and the steep and rocky pass is descended towards Kalgan, where trees begin to reappear.

FROM KIAKHTA TO PEKING. (*Prejvalski.*)

For the whole distance of about 200 miles² from Kiakhta to Urga the appearance of the country quite equals that of the best parts of our trans-Baikalia; here we see the same abundance of trees and water, the same luxuriant pasturage on the gentler slopes of the hills; in fact, there is nothing to remind the traveller of his proximity to the desert. The absolute

¹ Milne.

² According to a recent traveller, the distance from Urga' to Kiakhta is 176 miles. See "Rough Notes of a Journey made in the years 1868-73," page 19. Trübner: 1874.

height of the region between Kiakhta and the River Kara-gol¹ averages 2,500'; then, the country rises till it attains at Urga an elevation of 4,200' above the level of the sea. This ascent forms the outer northern border of the vast plateau of the Gobi.

The district between Kiakhta and Urga may be generally described as hilly, but the elevations are not great, and most of the hills are round. The ranges have an easterly and westerly direction, and are totally devoid of lofty peaks and steep bluffs; the passes are, therefore, not high, and the ascents and descents are gradual.

Three of these ranges following the road to Urga, are distinguished from the rest by their greater elevation: one on the north bank of the River Iro; a second, the Manhadai, in the centre; and the third, the Mukhur, close to Urga. The only steep and lofty pass across these mountains is the Manhadai, which may be avoided by taking a more circuitous road to the east.

The district we are describing is plentifully watered; its chief rivers are the Iro and Kara-gol, flowing into the Orkhon, a tributary of the Selenga. The soil is mostly black earth or loam, well adapted for tillage; but agriculture has not yet been introduced into this region, and only a few acres, about 100 miles from Kiakhta, have been cultivated by Chinese settlers.

The hilly belt of country between Kiakhta and Urga is well wooded. But the trees, which chiefly grow on the northern slopes of the hills, are far inferior in size, shape, and variety, to the Siberian timber. The prevailing kinds are fir, larch, and white birch, interspersed with a few cedars, ash, and black birch. The hill sides are occasionally dotted with sparse clumps of wild peach and acacia, and the rich grass supplies abundant food for the cattle of the Mongols all the year round.

The population of Urga is estimated at 30,000. The inhabitants of the Chinese towns are all Chinese officials or traders. Both these classes are forbidden by law to live with their families, or lead a thoroughly settled life. But the Chinese generally evade the law by keeping Mongol concubines. The Manchu officials, however, bring their families with them.

The population of the Mongolian part of Urga is chiefly composed of Lamas, *i.e.*, of the clergy. At Bogdo-Kuren they number as many as 10,000.

Urga ranks in the estimation of the Mongols next to Llassa² in Tibet for sanctity.³ Here lives the Kutukhtu or third person in the Tibetan patriarchate. According to the Lama doctrine these dignitaries are the terrestrial im-

Importance of Urga.

¹ The word *gol* is the Mongol for river, and is always added to the name of a river, in the same way as *nor* (more correctly *nur*, "lake") to the name of a lake, and *daban* ("range") or *ula* ("mountain") to the name of a range or a mountain. *Daban* (*pass*).—*M. S. B.*

² Llassa, the capital of Tibet, is called by the Mongols *Munbutsu* ("the ever sacred").
³ *Pan-tsin-Erdeni* does not reside in Llassa itself, but at the monastery of *Chesi-Lumbo* (*i.e.*, at the place which is variously called in our maps *Teshu-Lumbo*, *Jachi-Eunpo*, and *Shiggatzai*, at least 120 miles from Llassa. It is scarcely correct to call the *Punjan Irdeni* or *Panjan Rimbochi*, the personage whom Lieutenant Samuel Turner visited as envoy from Warren Hastings in 1783, and whom he calls the *Teshoo Lama*, the "assistant" of the Dalai Lama.)

personations of the God-head and never die, but are renewed by death. (*See page 319*)

Besides the Kutukhtu of Urga, there are other Kutukhtus or Gigenes in other temples in Mongolia and at Peking itself, but they are all inferior in rank to their brother of Bogdo-Kuren, and when they appear before him, they must prostrate themselves, like other mortals.

The Chinese Government fully appreciates the extraordinary influence which these Gigenes and Lamas exercise over the ignorant nomads, and on this account protects the whole religious hierarchy in Mongolia. In this way the power of the Chinese is perpetuated, and the hatred generally entertained by the Mongols for their oppressors somewhat abated. The Gigenes individually and as a class are, with very few exceptions, of very limited understanding.

At Urga the Siberian character of northern Mongolia ceases. On crossing the Tola the traveller leaves behind him the last remaining stream; and here too, on Mount Khan-ola, considered sacred ever since the Emperor Kang-hi hunted there,¹ he must take his last look at forest scenery. Southwards, as far as the borders of China proper,

Gobi.

lies the same desert of Gobi,² which extends like an enormous girdle across the plateau of eastern Asia, from the western spurs of the Kuen-lun to the Khingan mountains, which divide Mongolia from Manchuria.

It should be mentioned that the eastern Gobi is not so thoroughly desert in character as it becomes towards the south and west. Thus the plains in Ala-shan and in the vicinity of Lake Lob are sterile and desolate in the extreme.

After the first day's journey from Urga, the traveller finds everything changed. A boundless steppe, slightly undulating in some parts, in others furrowed with low, rocky ridges, fades away in the bluish, misty distance of the horizon, without any break in its same-

Gobi; S. of Urga.

ness. Here and there may be seen numerous herds and flocks of Mongols grazing, and their encampments frequently stand near the roadside. The road is so good as to be perfectly practicable for a tarantass. The Gobi proper has not yet begun, and the belt of steppe we are describing, with its soil of mingled clay and sand, clothed with excellent grass, serves as a prelude to it. This belt extends from Urga to the southwest, along the Kalgan road for about 130 miles, and then imperceptibly shades off into the sterile plains of the Gobi proper.

Even the Gobi is rather undulating than flat, although you sometimes come on tracts of perfectly level plain, extending unbroken for many miles together. These level tracts are particularly frequent in the centre of the plateau, whereas in the north and south there are plenty of low hills, either in detached groups, or in prolonged ridges, rising only a few hundred feet above the surrounding plains, and for the most part con-

Gobi proper.

¹ It is probable that the sacredness of Khan-ola is due to a more ancient and notable circumstance.—*viz.*, that the great Chengiz Khan was buried there; see Quatremère, "Histoire des Mongols," pages 117 *et seq.*; and "Marco Polo," bk. I, ch. li, note 3.

² The word *Gobi* in Mongol literally means "a waterless, barren plain, almost devoid of grass." The word for "steppe" is *tala*.

sisting of bare rocks. These ravines and valleys are all marked by dry water-courses, which only contain water after heavy rains, and even then for not more than a few hours. Along these water-courses the inhabitants dig wells to supply themselves with water. No running streams are met with the whole way from the River Tola to the borders of China proper, *i.e.*, for about 600 miles; the rains in summer forming temporary lakes in the loamy hollows, which soon dry up during the severe heat.

The soil of the Gobi proper is composed of coarse reddish gravel and small pebbles, interspersed with different stones, such as occasional agates. Drifts of yellow shifting sand also occur, although of a less formidable character than those in the southern part of the desert.

Vegetation finds no sustenance here, and the Gobi produces even grass but scantily. Completely barren spots are certainly rare along the Kalgan road, but such grass as grows is less than a foot high, and hardly conceals the reddish-grey surface; only in those places where the gravel is replaced by clay, or in the hollows, where the summer moisture is longer retained, a kind of grass called by the Mongols *derisun* (*Lasiagrostis splendens*), grows in clumps 4 to 5 feet high, and as tough as wire. Here and there, too, some solitary little flower finds an asylum, or if the soil is saline the budarhana (*Kalidium gracile*), the favourite food of camels, may be seen. Everywhere else the wild onion, scrub wormwood, and a few other kinds of Compositæ and Gramineæ, are the prevailing vegetation of the desert. Of trees and bushes there are absolutely none; indeed, how could there be in such a region? Putting out of the question the natural impediments to vegetation, the winds of winter and spring blow day after day with such violence that you see even the humble shrubs of wormwood uprooted by them, rolled into bundles, and driven across the barren plain!

The population in the Gobi proper is far more scanty than in the steppe country which precedes it. Indeed, none but the Mongol and his constant companion, the camel, could inhabit these regions, destitute alike of water and timber, scorched by an almost tropical heat in summer, and chilled in winter to an icy cold.

Population.

The barrenness and monotony of the Gobi produce on the traveller a sense of weariness and depression. For weeks together the same objects are constantly before his eyes: cheerless plains, covered in winter with the yellowish withered grass of the preceding year, from time to time broken by dark rocky ridges, or by smooth hills, on the summit of which the swift-footed antelope (*Antilope gutturosa*) occasionally casts a light shadow. With heavy measured tread the laden camels advance; tens, hundreds of miles are passed, but the changeless desert remains sombre and unattractive as ever.

The sun sets, the dark canopy of night descends, the cloudless sky glitters with myriads of stars, and the caravan, after proceeding a little further, halts for the night. The camels show unmistakable satisfaction at being freed from their burdens, and lie down at once near the tents of their drivers, who busy themselves in preparing

their unsavoury meal. In another hour men and beasts are asleep, and all around reigns the death-like silence of the steppe, as though no living creature existed in it.

Besides the post-road, which is farmed by Mongols, there are other routes across the Gobi from Urga to Kalgan, which are usually followed by the caravans. At certain distances¹ along the post-road, wells are dug and tents pitched which serve as stations, but along the caravan routes the number and size of the Mongol encampments depend on the quality and quantity of pasturage. These roads, however, are only frequented by the poorer inhabitants, who earn a livelihood from passing caravans, either by begging, pasturing camels, or by the sale of dried argols (dung of animals), which is an article of great value both for the domestic use of the nomads and for travellers, as it is the only fuel in the whole of Gobi.

After leaving the Khalka country we passed through the land of the Sunni Mongols, and left behind the most barren part of the Gobi, entering a more fertile belt, which forms a fringe on the south-east, as a like belt does on the north, to the wild and barren centre of the plateau. The surface of the country now becomes more uneven, and is covered with excellent grass, on which the Chakhar Mongols pasture their numerous herds. These people are the frontier police of China proper, having been enrolled in the Government service, and divided into eight banners. Their country is about 130 miles in width, but its length from east to west is nearly three times as much.

Owing to their constant intercourse with the Chinese, the Chakhars of the present day have lost not only the character, but also the type of pure Mongols. Preserving the native idleness of their past existence, they have adopted from the Chinese only the worst features

The Chakhars.
(See pages 211, 235, 315.)

of their character, and are degenerate mongrels, without either the honesty of the Mongol or the industry of the Chinaman. The dress of the Chakhars is the same as that worn by the Chinese, whom they resemble in features, having generally a drawn, or angular, rather than a flat or round face. This change of type is produced by frequent intermarriages between the Chakhar men and Chinese women; the offspring of this union of race is called Erlidzi. Other Mongols, particularly the Khalkas, detest them as much as they do the Chinese, and our drivers always kept watch at night while travelling through the country, because they said that all its inhabitants were the greatest thieves.

The Chakhar country is badly watered, but a few lakes may now and again be seen, the largest of which is Lake Angulinor. It is only when you get near the border of the plateau, and after you have passed some small streams, that the first signs of cultivation and settled life appear. The Chinese villages and cultivated fields plainly tell the traveller that he has at last left the wild desert behind him, and has entered a country more congenial to man.

At length, far away on the horizon, can be discerned the dim outlines of that range which forms so distinct a definition between the

¹ There are 47 post-stations between Urga and Kalgan, along a distance of about 660 miles.

high chilly plateau of Mongolia and the warm plains of China proper. This range is thoroughly alpine. Steep hill-sides, deep valleys, lofty precipices, sharp peaks, often crowned with overhanging rocks, of an appearance of savage grandeur, are the chief characteristics of the mountains, along the axis of which is carried the Great Wall. Like many other ranges of Inner Asia, which have a lofty plateau on one side and low plains on the other, they present no ascent from the side of the plateau. To the very last the traveller makes his way through undulating hills, until a marvellous panorama is suddenly disclosed to his view. Beneath

Border range.

his feet are rows upon rows of lofty mountains, precipices, chasms, and ravines, intermingled in the wildest confusion; beyond lie thickly-populated valleys, through which glide winding rivers. The contrast between that which has been passed and that which lies before is wonderful. The change of climate is not less remarkable. Hitherto, during the whole of our march, frosts were of daily occurrence, sometimes exceeding 34° Fahr., and always accompanied by strong north-west winds, without snow. Now, as we descended, the temperature grew warmer at every step, and on arriving at Kalgan the weather was spring-like, although it was yet early in January; so marked was the change in a distance of about 17 miles, separating this town from the commencement of the descent. The high land has a height of some 5,400', whereas the town of Kalgan, at the entrance to the plains, is only 2,800' above the level of the sea.¹

This town, called by the Chinese Chang-kia-kau, commands the pass through the Great Wall, and is an important place for the Chinese trade with Mongolia.² Kalgan numbers 70,000 inhabitants, who are entirely Chinese, but include a great many Muhammadans, known throughout China by the name of Hwei-Hwei.

³ Kuei-hwa-cheng to Uliassutai and Kobdo. (*Neh Elias.*)

There is at Kuei-hwa-cheng (a 12 days' journey from Peking), by comparison, a large export trade in tea, flour, millet, and all manufactured articles used by the Mongols, such as cotton cloth, knives, saddles, pipes, &c.; and from Mongolia are brought live-stock and skins, in what Mr. Neh Elias conceives to be of about equal value, for, as the Mongols have but little silver amongst them, the trade is almost entirely one of barter.

It has a western Asiatic air. Nor is it surprising that this should be the case, as for hundreds of years it has been the eastern gate of the desert, as Kia-yu-kuan was the western one—caravans from the western Muhammadan nations coming and going, and leaving here traces of those distinctive peculiarities of their countries which form the marked contrast to neighbouring portions of China at present observable, and which a further passage into the country would have easily destroyed. A large proportion of the inhabitants, including many of the most influential towns-people, is still Muhammadan, and

¹ Kalgan is derived from the Mongol word *khalga*, i.e., "a barrier."

² Russian cloth, plush, and furs, are also sent hither.

³ To Lama-miao, see page 207; see also page 74.

though a Muhammadan war of extermination was supposed to be raging in the neighbouring province of Kansuh, no animosity was shown towards these people here, and they appeared to be just as loyal and peaceable Chinamen as the rest of their fellow-citizens. One constantly sees amongst them men whose type of physiognomy stamps

Kuei-hwa-cheng,

them as of undoubted Western origin, though in language, as to all other intents and purposes, they are Chinamen, in every sense identical with the Dungsans, or Tunganis of the Tian-shan settlements. Few profess to come from further west than Urumtsi or Kuldja, though I believe the original contact of races to have occurred chiefly in eastern Turkistán and Kokand, and in the Chantu provinces on the south of the Tian-shan. This conjecture, too, is borne out, not only by history, but by the style of architecture noticeable at this very place, for in a large proportion of the buildings it differs from anything generally seen in the interior of China, inasmuch as instead of the open wooden front, the houses are built all round of stone or clay bricks, having narrow doors and long slits for windows, placed high up from the ground, whilst the roof, instead of being of the usual form, high pitched and of tiles, is flat and surrounded by a low castellated parapet. Its nearest port on the Yellow River is Hokow, 2 miles from Toto-cheng, distant 50 in a south-south-west direction. The country over the whole distance is a plain, sloping very gradually towards the river-bed, which is there of course of a natural formation and unembanked. The elevation of the Yellow river at Hokow above sea-level is 3,270'.¹

Both Toto and Hokow are busy little towns, and I saw a great deal of coal, especially at the latter place, mostly in very large blocks, and of a hard slaty nature, which is said to be mined in the hills some 300 *li* to the north-west. The navigation of the Yellow River is almost entirely down-stream, in flimsy, square, flat-bottomed boats or lighters, which are intended only to drift with the current, and to be broken up at the end of the voyage. These boats are to be seen as low down as the Grand Canal and the neighbourhood of Si-nan-fu in Shantung.

The territory allotted by Rome to the Belgian mission extends from Kuantung, near Jehol, in the east, to the neighbourhood of Kuei-hwa-cheng in the west, and consists chiefly of the narrow belt of Mongolia lying immediately outside the Great Chinese immigrants. Wall, where the population is made up almost entirely of Chinese immigrants from the neighbouring provinces of Chili and Shansi, who cultivate the ground and build houses or excavate caves, as in their native provinces, and have nothing whatever in common with the Mongols, who, though frequently standing in the relationship of landlords to the much-despised Chinese agriculturists, invariably pitch their camps on uncultivated ground and breed their horses and sheep beyond the reach of Chinese "civilisation."

The agriculture in these settled districts consists mainly of wheat, oats, millet, and poppy, the facilities for the cultivation of the latter being the chief inducement to immigrants, the price being generally reckoned at 300 to 350 cash per tael, or, say, 11*d.* per ounce.

¹ This gives a fall in the Yellow River of 4 feet per mile.

It is admitted on all hands that opium-growing is the most profitable trade in Mongolia, and that in spite of the taxation and occasional bad years, it continues to repay the growers handsomely. From Kuei-hwa-cheng the Belgian missionaries occupy the country bordering the Yellow River to Lan-chow-fu.

At 6 miles out of the town the heights bounding the Kuei-hwa-cheng plateau are reached, and on the second day (10th September) the pass is crossed at an elevation of 5,050' above the level of the sea, and that after descending rapidly some

Route.

800' into a narrow valley or gorge, and again gradually ascending the bed of a mountain torrent; beyond, the open down-like country of the true Mongolian steppe is reached at a small village near the Chinese settlement of Ku-ku Illikung, the last of all the settled communities towards the desert. There are two tracks from here to Uliassutai, as there are also two from Kalgan to Urga, *viz.*, an official track, or "*Tai-lu*" as it is called by the Chinese, and a caravan track. The former is used by all Government officials and soldiers, and consists of a string of Mongol villages or "stations," subsidised by the Chinese Government to remain at certain positions along the route, and to have constantly at hand a certain number of camels and ponies ready to meet the requirements of whatever officials or soldiers may present themselves at any time of the day or night provided with the proper order for official transport. The subsidy is paid to the station-holders, in most cases, I believe, yearly, by the military governor of the border town or settlement in whose dis-

Post-stations.

trict the station lies, and it covers not only the expense of animals and drivers or guides, but also of the food supplied to the passengers while at the station, *viz.*, a leg of mutton or its equivalent from other parts of the sheep for each traveller at each station, and a sufficient quantity of water for cooking and drinking. By this mode of travelling as much as three marches or stages per day are frequently made good by officials on horseback and two by loaded camels, each stage averaging about 16 geographical miles, though some are nearly double the length of others. (*See page 252.*)

The stations, being merely encampments or villages of yourts, are, of course, easily moved, and the great difficulty the Government has to contend with in maintaining the institution in working order is that of preventing the Mongol owner from changing his position; but in spite of all efforts it is constantly done, and much time is frequently lost by the travellers in searching for the stations.

The caravan track consists of nothing but a line of camel and pony foot-prints, leading through the best grazing grounds of the neighbourhood and the most easily traversed passes, and consequently also past the wells or water-holes of the Mongols, for, though often nothing is seen of their encampments for several days at a stretch, yet these are never far distant from the wells; thus, it may be described as a track connecting a series of Mongol encampments, near which pasture and water are usually to be found, but it can in no sense be called a road. In the case of Uliassutai this track lies considerably to the west of the offi-

cial or "*Tai-lu*," and it being my object to cross the desert as far to the westward as possible, I followed it in preference to the latter.

The usual order of travelling was to break camp at 11 in the morning, and, after spending about an hour in saddling and loading, to start finally about noon, and with the exception of a halt for watering purposes where and whenever it was found most convenient, to continue the march until about 10 at night. In this way during the first few weeks of the journey an average of about 18 geographical miles a day was made good, though later on, when the camels became poor and weak, this average was reduced to 15 miles. The reason for starting so late in the day is in order to secure time during daylight for the camels to feed, for, besides the difficulty of watching them whilst grazing at night, it is a peculiarity of the Mongolian camel not to be able to feed satisfactorily, except during daylight; and by adopting the above order of marching, he is turned loose at dawn and easily watched whilst grazing until the time of breaking up camp.

Wednesday, 18th September.—Since leaving our encampment at the three little salt lakes on the 12th instant, we have been travelling on steadily, but slowly.....through an open grass country, with low hills here and there. The grass, however, is very sparse, and in many places there are patches of sand or beds of rock cropping up, so that grazing ground for the animals is not always easily found. We see very little of even the few Mongols whose settlements we pass, though my guide speaks the language very fluently, and seems to be well acquainted with all their peculiar manners and customs. Thus far they are all of the Toumet tribe; they appear to be much poorer and more squalid in their habitations than those seen between Kalgan and Kuei-hwa-cheng, who are chiefly Chahars or Sunnites, yet they are tolerably civil and well disposed. Their property mainly consists of small flocks of sheep, goats, and camels, horses and cattle being comparatively rare. We frequently meet large flocks of sheep, some of them numbering 6,000 or 7,000, and mobs of ponies, with as many as 500 or 600 in a mob, on their way from the Kobdo and Uliassutai districts to Kuei-hwa-cheng; these are the property of Chinese merchants of the latter place, whose agents collect them during the winter by bartering tea, cotton cloth, &c., against them, and in the spring they commence their march across the desert in charge of Chinese drivers and shepherds, the sheep requiring usually from six to seven months from Kobdo, and the ponies three to four.

Tuesday, 24th September.—We have now been for several days in the true desert, or Gobi as it is called by both Chinese and Mongols. The aspect of the country is that of low hills or downs, with valleys and plains intervening, the whole of a rocky or stony nature, rather than sandy, though patches of sand do occur every here and there. What little vegetation exists is chiefly composed of weeds, scrub, and heath, there being scarcely any grass; and only a dwarfed and stunted tree here and there, in the gorges or passes of those low rocky ranges that, at uncertain intervals, cross the desert in almost parallel lines from east to west. The scrub makes tolerably good pasture for

Gobi proper.

camels, but ponies fare badly. . . . The only game seen has been an occasional hare and a few herds of "huang-yang," or yellow goats.

The so-called wells are often little better than holes or pools of water, and it frequently happens that we arrive at one after a flock of sheep or a mob of ponies has been watering there and drunk it dry; in which case the only alternatives are to make a forced march towards the next, or to camp and wait for the water to collect again. The best wells are always to be found in or near the rocky transverse ranges of hills mentioned above, the water in them always being sweet, whilst in those on the plains it is frequently somewhat brackish.

Wells.

Monday, 30th September.—We continue to advance at the rate of about 18 geographical miles a day, every now and then falling in with a caravan of Chinese camels returning, without merchandise, from Kobdo or Uliassutai, all having been bartered against sheep and ponies, numbers of which, chiefly from Kobdo direct, we still frequently meet. . . . Neither of my men know the country, and we have great trouble in finding grass and water.

The fine autumn weather broke up on the 20th September, since when it has been generally cold and blowy.

On the 27th, with a strong north-wester, but bright sun, there was ice of half an inch in thickness at 10 in the morning.

Thursday, 10th October.—On the morning of the 8th we arrived at the River Onghin.

Some 10 miles before arriving at the river our road joined the "tai-lu," or official track from China to Uliassutai, *viâ* Zaire Ussu.

The direction of the Onghin for the 7 or 8 miles that I have been able to see is from north-west to south-east, and the natives assert that it continues to flow in the latter direction for a distance of about 80 miles. It there loses itself in the desert near the lamasery called Ulansomo, but it does not form a lake.

The altitude of the Onghin at this point is 4,740' above the sea; it winds through a flat valley in several branches or loops, and with a current, at this season, of 3 to 4 miles an hour. The bed is a loose shingle of chalcedony, and the water clear and sweet, though a good deal of efflorescent salt is observable in the soil of the valley.

Until arriving at the Onghin our general course has been to the north-west, but after passing the river the track leads in a westerly direction along the southern slopes of the rugged Kangai mountains, and across most of the streams they send forth towards the south, to be absorbed, after a short course, by the thirsty desert. The formation of these ranges, or masses of mountains as they appear rather to be, is chiefly red granite, though in some places grey is met with, whilst the beds of the rivers are mainly composed of loose pebbles of chalcedony, like the Onghin.

The guide having deserted, it became necessary to find my own way to Uliassutai, a distance of nearly 400 geographical miles, from the 11th, and take water and grass whenever I happened to find it.

On the evening of the 14th October the River Tatz was crossed, and on the 16th the Tui.

After ascending from the valley of the Tui and continuing our westerly course for about a distance of 85 miles, the River Baitarik was struck, on the 20th October, in latitude $46^{\circ} 6'$. This is the largest and most powerful of the Kangai streams, being 60 or 70 yards broad where we passed it, and more than 2' deep in many places, whilst in summer, as the banks plainly indicate, it reaches to more than three times its present dimensions; the water is clear and sweet and the current very swift, its general direction being from north to south. The country for several days' journey, both to the east and west of the Baitarik, is extremely rugged and barren, and it is here that are chiefly to be found the wild ponies and asses of Mongolia. The former go in large mobs, and are sometimes hunted by the natives on horseback, and sometimes caught in pits made for the purpose near their watering-places. The asses are somewhat rarer than the ponies, but excessively wild.

On the night of the 25th October we camped on the left bank of the Jabkan or Chagan-Tokoi river,¹ as it is here called, in latitude $46^{\circ} 32'$. This stream rises in the Uch range to the northward. The southern range, the Sirke, rises to 3,000' and 4,000' over the general level.

On first entering these mountains (Uch) a snow-covered pass was crossed some 8,000' above the sea, after which a steady descent took place, for about two days' journey, until arriving in the valley of the Uliassutai river near its junction with the above tributary, and at about 20 miles below the settlement, which latter was reached on the 2nd November.

There were at the time of my visit eight Russians at Uliassutai, three of whom were traders, and the others servants or camel-drivers, and all natives of Biisk. A joss-house, outside the town, had been allotted to them as a residence by the Governor; and here they all lived, keeping a sort of general store for the sale of English manufactures, Russian cotton-prints, brass-ware and cutlery, tobacco, sugar, &c.

Though the altitude of Uliassutai is not above 5,736 feet, the climate is admitted on all hands to be a very severe one, and certainly during the eight days of my stay (November), though it was not yet the depth of winter, the cold was excessive; the thermometer seldom rose even to 20° Fahr. in the middle of the day, and observing at night became a most trying pursuit. The place is situated in a deep valley, having at its eastern end a narrow opening, or gorge, through which flows the Uliassutai river, past the town and on towards the Jabkan, and the winds that almost daily whistle through this river valley render it little better than a desert, well watered though it is. The only cultivation that is attempted by the settlers is that of cabbages and turnips, for local consumption, and the only wood that exists is situated in sheltered nooks on the northern slopes of the hills,

¹ A day's journey north-west from Chagan-Takoi the Uch range bends somewhat towards the south, and then dies down in the direction of the Sirke before reaching the valley of the Jabkan. Beyond this is a highly elevated open down country, and then masses of mountains, with no defined watershed. In these, two tributaries of the Jabkan — *i.e.*, the Uliassutai and the Buyantu — have their sources.

and consists of small and stunted pines, which are used for building and fuel.

The only exports from the place itself are live-stock and skins, the large quantities of medicinal deer-horns sent from here to China having been first brought by the Russians or Kalmuks from the Altai ranges to the border, or to Kobdo, and there made over to Chinese traders. The chief imports are naturally flour and millet, material for clothing and cutlery, as required by both Chinese and Mongols, and opium for the former only.

Everything is exceedingly dear, as, for instance, flour, £3 per cwt., opium 7s. 6d. per ounce, and other things in proportion. Sheep even, that 40 miles off can be brought for 12s., are here sold for about 20s. Copper cash is not current, and the lowest weight of silver in common use is the mace, equal here to 8d. sterling.

On the 10th November we retraced one day's journey as far as the confluence of the Buyantu and Uliassutai rivers, and then, continuing on a general westerly course down the valley of the Jabkan for eight days, reached a Mongol station, consisting of five yourts, on the official track called Argilingtu, where it is necessary to cross the river in order to reach Kobdo, by skirting the southern shores of the Turgen and Kara lakes. We passed the river and proceeded towards the southern end of the Baka lake, a small sheet of sweet water, about 2 miles broad by 3 or 3½ miles long, and after crossing a range of remarkable sand-hills, came upon the Turgen lake next day. This latter is called the Kara, or "black" lake, on the maps; but I could hear of it by no other name than that of Turgen. It is a large and probably deep lake, extending towards the north and north-west, as far as can be seen from the southern shore, and its water is sweet and beautifully clear. The range of sand-hills which skirts the eastern shore of the lake, and strikes far into the desert on the south, is not, I believe, connected with the other similar range, running from the sources of the Buyantu and Uliassutai, down the left bank of the Jabkan, to nearly opposite Argilingtu. Both these ranges, however, form a most peculiar feature in the country; their height is not considerable, perhaps never over 200 feet above the river; but, being composed entirely of loose sand, are subject to very great changes, both of altitude and form. One of the ordinary Mongolian gales has sometimes the effect, I am informed, of changing the whole aspect of the exposed portion of the range, and a very inconsiderable breeze is sufficient to obliterate the tracks of a large caravan of camels almost immediately after it has passed.

In some places trenches, or gullies, have been hollowed out by the wind to a depth of 30 or 40 feet, leaving almost perpendicular sides; in others deep holes of a conical shape, excavated with wonderful precision, are found side by side with conical mounds, of equally precise form; or alternate ridges, or gullies, of great depth and extraordinary uniformity, extend, one behind another, for a distance of many hundreds of yards. The passage of these ranges of shifting sand is much dreaded by those who travel with camels, and it rarely happens that the best-appointed caravans effect it without the loss of

some of their animals. Moreover, after any marked alteration of the line generally traversed, it is exceedingly difficult to find the way; and, as no pasture of any kind exists among the hills themselves, it is almost impossible to camp during the passage without serious danger of losing the camels for want of food.

A long day's march, in a west north-west direction, from the Kara, now brought our party, on the night of the 28th November, to Kobdo. To describe it as shortly as possible, it is situated in a large open valley or plain, surrounded by rugged, barren hills, and is reached from the side of China and the Tian-shan by a track leading across a path to the south-east, and from the Russian side by a similar track, conducting across the hills on the west. The plain itself is stony, and entirely bare of all vegetation but a few scattered weeds. At one time it is said to have been covered with wood—the essential fact, indeed, that led to the establishment of the place; this, however, has long since been exhausted, and both wood and grass have now to be brought from other valleys among the hills, and mostly from considerable distances. The settlement consists of an official city, or fortress, enclosed by a mud-brick wall and moat, both of which are new, and in perfect repair, and of the open town or trading quarter lying immediately to the south-east of the fortress. Beyond this again, in peaceful times, is pitched a large and populous Mongol settlement, consisting, it is said, of several hundred yourts, though at the time of my visit there were not fifty remaining, the rest having either been carried off by their owners on the first alarm of rebels, or burned when the attack was made. (*See page 324.*) The open town is entirely Chinese; it is regularly and solidly built of mud bricks; the streets are wide and comparatively clean, and in the principal ones are rows of trees, growing on either side, as in some European towns. The Russians have a similar trade here to that at Ulias sutai, but it is of more importance, and there are more people usually engaged in it.

The population immediately before the late irruption of Tunganis is said by the best authorities I could question on the subject to have been about 1,100 resident Chinese, to which may be added about 100 for passing caravans (for these are less numerous here than at Uliassutai, in spite of the trade being greater), 750 Chinese soldiers, 900 Tartar cavalry, and perhaps 3,000 Mongols, making a total of nearly 6,000 persons. The only agriculture consists of cabbages, turnips, &c., and a little opium. All the fuel within the radius of a day's journey of Kobdo having been exhausted, it is thought the place will increase no further; indeed, instead of increasing, it had already begun to seek an outlet for itself, the result being the foundation of a promising settlement about two years ago near a large lamasary called Tsachar-tsing, five stages towards the south on the road to Urumtsi, and situated in a populous and well-watered Mongol district. The existence of Tsachar-tsing was a short one, for, on the 12th November, on their way to Kobdo, the Tunganis paid it a visit, and left not a stick of either lamasary or settlement standing.

On the morning of the 3rd we began our march across the Altai towards Suok, the nearest Chinese border post, distant about 180

miles, in a west-north-west direction. For the first three days confused masses of mountains were crossed through passes generally between 7,000' and 8,000' above the sea, but not till the fourth was any appearance of a chain noticeable, when a pass, called Hongorellen, was reached, of 8,896', with snow-clad peaks stretching both to the north and south of it, as far as it was possible to see. Within 3 miles to the north of the pass was a peak I should estimate at 12,000' or more, its covering of eternal snow stretching far down its rugged sides. After crossing this range, and beyond it again a number of lower parallel ridges abutting on the valley of the Kobdo river, a small stream called the Hatto, running through a wooded valley, was reached, and followed down a short distance to its confluence with the Kobdo. This latter is a narrow but fairly deep river, originating in the Suok and another small stream on the same watershed as the great Siberian Ob, and after keeping an east-south-east course falls into the Kara some little distance to the north of Kobdo.

Passing the Kobdo on the 9th somewhat below the Suok junction, and still holding a west-north-west course, our party arrived two days later at the Chinese border station of the latter name. The Russians have no official post or settlement of any kind at Suok, or indeed within several days' journey of it, the nearest being Ukek, three stages, or about 60 miles to the west, across high and difficult passes of the Altai. Nor have they any trading settlement here either, though considerable encampments of Russian Kirghese or Hassacks are usually to be found on the river near the post, and even further within the Chinese border, as, for instance, in the wooded valley of the Hatto. The place consists of about thirty yourts, and the Chinese border officer, a military blue button, with a petty officer and eight or ten Mongol soldiers, represent the government and executive. There are no duties either inwards or outwards, but passports are supposed to be shown by all who come from the side of Russia, though this is by no means always enforced, the Hassacks coming and going as they choose, and the Chinese officer not daring to interfere, for his force of ten Mongols would not face one single Hassack. (*See page 543.*) These border tribes give much trouble to both Russian and Chinese authorities, and are the terror of Mongols and Kalmuks wherever they come in contact with them; they are much mixed in race, and are of Russian or Chinese nationality, as the occasion happens to suit, and always sheep-stealers and camel-lifters by profession.

A temporary Russian trading settlement—temporary, that is, in the sense of being occupied in summer and left in charge of Kalmuks in the winter—stands on the River Chui on the northern slope of the main watershed, and about 50 miles nearly due north of Suok. The watershed in this direction is crossed by a high but not difficult pass, and is altogether an easier road in winter into Russian territory than the westerly one to Ukek and Chingistai; it was by this pass that I crossed the chain and reached the Chui settlement four days after leaving Suok. No boundary can be naturally more complete than that formed by this east and west chain of Altai for Russia and China; not only does

it separate the river systems and the northern pine forests from the barren rocky deserts of the south, but it also constitutes the natural border line between the Kalmuks and the Mongols; and since its fixture as the political frontier some ten years ago the former have been enabled to escape from their previous anomalous position of owing allegiance to both states. They are now entirely under Russian rule, and though being rapidly impoverished and "improved" away by contact with civilisation, are still universally liked and respected for their simplicity, hospitality, and honesty. The condition of the mountain tribes of these people is that of hunters and fishers, and though their language has a Turkish root, they have little or no literature; their customs are most primitive, and their religious ceremonies grotesque in the extreme. On the whole, they are the most respectable Asiatics I have ever come in contact with.

From Chui, following down the Chui and Katane valleys, Ongodai, the most forward settlement of the Russians, is reached. Thence to Biisk, the terminus of the Russian post-road, a more or less cultivated country is passed through. It was reached on the 4th January 1873. (*See page 339.*)

Route to Urga by the Central Gobi.

Leaving the high lands of Kansuh, the threshold of the Ala-shan desert, a boundless sea of sand-drifts, is crossed.

The march from Taying to Din-yuan-ing takes 15 days;¹ the route is a difficult one to accomplish, and the traveller needs to take every precaution to avoid losing his road in the desert. (*See page 220.*)

Din-yuan to Urga across the Central Gobi. (*Prejvalski.*)

From Din-yuan-ing the journey was resumed on the 26th July, after bartering such of our camels as had become useless to us. Guides are obtainable, under official orders, at the several banners, whilst crossing the desert, without whom it would be rendered most difficult.

The intense heat at mid-day in July rose to 113° Fahr. in the shade, and at night was never less than 73°. The wind, instead of cooling the atmosphere, stirred the lower strata, and made it even more intolerable. The sky was cloudless, and of a dirty hue. The soil heated to 145° Fahr., and even higher, where the sands were entirely bare, whilst at a depth of 2 feet from the surface it was 79°.

Tents are of no protection, being hotter within than outside, notwithstanding the sides being raised, and water poured on them and on the ground inside. The air being terribly dry,² no dew fell, and rain-clouds dispersed without sending more than a few drops to earth.

Thunder-storms rarely occur,³ but the wind was incessant night and day, blowing with great violence, chiefly from south-east and south-west. On calm days tornadoes are frequent about mid-day or a little later.

¹ This includes three halting-days.

² The difference between the wet and dry bulbs of the thermometer was sometimes as great as 30°, with the temperature of 113°.

³ Only three times in July.

The route taken by most of the caravans of pilgrims from Urga to Ala-shan on their way to Tibet, turns a little to the west at the Khanula mountains, afterwards taking the direction of the Khalka country. The wells along this route are not sufficiently numerous to render it an expedient one, they having been neglected since the outbreak of the rebellion.¹

The course lay due north,² and after crossing some spurs of the Kara-narin-ula the country of the Urutes is entered, which lies wedge-shaped between Ala-shan and the Khalka country.

This country is considerably higher than Ala-shan, but soon begins to sink towards the Galpin Gobi plain, where the elevation is only 3,200'; north of this again it rises to the Hurku mountains, which form a distinct definition between the barren desert on the south and the more steppe-like region on the north. There is also a slope from the ranges bordering the valley of the Hoang-ho westward to the Galpin Gobi, which forms a depressed basin, no higher than Djarataidaban, extending, the Mongols say, for twenty-five days' march from east to west.

The soil in the eastern portion crossed consists of small pebbles, or of saline clay, almost devoid of vegetation; the whole expanse of country to the Hurku range being a desert, as wild and barren as that of Ala-shan, but of a somewhat different character. The sand-drifts, so vast in the latter country, are here of comparatively small extent; instead are found bare clay, shingle, and naked crumbling rocks (chiefly gneiss), scattered in low groups. Vegetation consists of stunted, half-withered, clumps of saxaul, karmyk, budarhana, and a few herbaceous plants, the chief being the sulhir; the elms³ are the most striking features in the Urute country, forming in places small clumps; bushes of wild peach⁴ are also occasionally met with, such as do not exist in the Ala-shan desert. Animal life is very scant; birds and mammals are the same as in Ala-shan. It is usual to ride for hours together without seeing a bird, not even a stone-chat or a kolodjoro; nevertheless, wherever there are wells or springs, Mongols are to be found, with a few camels and large numbers of sheep and goats.

The heat is excessive, though never so bad as in Ala-shan. Winds blow ceaselessly night and day, often increasing to the violence of a gale, and filling the air with clouds of saline dust and sand, the latter choking up many of the wells; but these are more frequently destroyed by the rains, which, although rare, come down with terrific force, and for an hour or two afterwards large rivers continue to flow, silting up the wells (always dug on the lower ground), with mud

¹ The Urga caravan which started in the summer of 1873 for Llassa to find the Kuktukhta, crossed the Gobi in small *échelons* and by different routes. People were sent in advance along the high road to clear out old and dig new wells, notwithstanding which there was a scarcity of water.

² There is no road here, and you may sometimes go 70 miles without seeing a track.

³ These trees are 15' to 20' high and 2' to 4' thick; they are mostly met with in dry rain-water-courses, probably because they find more moisture here.

⁴ There is no wild peach in the Ala-shan mountains or in those of Kansu and northern Tibet.

and sand. It would be impossible to travel here without a guide thoroughly acquainted with the country, for destruction lies in wait for one at every step. In fact, this desert, like that of Ala-shan, is so terrible that, in comparison with it, the deserts of northern Tibet may be called fruitful. There at all events you may often find water and good pasture-land in the valleys; here there is neither one nor the other—not even a single oasis.

The well-known Sahara¹ can hardly be more terrible than these deserts, which extend for many hundreds of miles in length and breadth. The Hurku hills are the northern definition of the wildest and most sterile part of the Gobi, and form a distinct chain, with a direction from south-east to west-north-west; how far either way cannot be possibly asserted; but, according to the information the natives give, they are prolonged for a great distance towards the south-east, reaching the mountains bordering the valley of the Hoang-ho.

Their width is a little over 7 miles, height apparently not exceeding 1,000'. The chief formation is porphyry, of which the loose *débris*, scattered over their slopes, is composed. Springs of water are extremely rare, and the appearance is desolate and lifeless. They are almost devoid of vegetation, except where an occasional dwarf peach, acacia, and *Sarcosygium xanthoxylon* appear, or where along the dry water-courses the karmyk and dirisun, or, more rarely still, the elm is seen. There is a remarkable absence of birds, and it is only now and then that you see a vulture, a lammergeier, a kestrel, a partridge (*Perdix Chukor*), or a stone-chat (*Saxicola Isabellina*).

Yet, despite their barrenness, the Hurku hills are inhabited by a large and rare animal, *i. e.*, the mountain goat (*Capra Sibirica*) called by the Mongols Ulan yuman.²

South of the Hurku lies the great trade route from Peking *via* Kuku-khoto and Bautu, to Hami, Urumchi and Kuldja,³ branching off near the spring of Bortson, whence one branch leads to the town of Suh-chau. (See page 249.)

The Hurku hills are the northernmost limit of the distribution of saxaul,⁴ of the sand-martin and sparrow (*Passer ammodendri*) of Ala-shan. Here, too, was seen for the last time *Perdix Chukor*.

Northwards the character of the desert exhibits a marked change. The bare sand-drifts which cover so vast an expanse of the Urute country soon terminate,⁵ and instead is found a clay soil, covered

¹ In the Sahara desert we find the same diversity in composition and altitude; the same immense tracts of shingly and saline soil; the same loose, drifting sands, with occasional patches of rocky ground, covered with thorny scrub; while at distant intervals an oasis or islet of vegetation occurs. Such are also the characteristics of the great deserts of Persia and Arabia, which form the prolongation eastward and northward of the Sahara; the whole tract from the Sahara to the (Gobi or) Shamo pointing at once to similarity of conditions and sameness of geological origin.—*M.*

² *i. e.*, "the red goat."

³ The former province of Ili.

⁴ However, Mongols say that saxaul grows north of the Hurku hills, in the bare sands near the trade route between Kuku-khoto and Uliassutai.

⁵ It should, however, be mentioned that sand-drifts occur sporadically in all parts of the Gobi, but are less continuous here than in Ala-shan and the conterminous Urute country.

with pebbles. But the topography continues the same,—level or slightly undulating plains, studded with low hills, now connected in low ridges, now standing in isolated groups, composed of silicious slate, gneiss, and some of the later igneous rocks. There is scarcely any vegetation; indeed, it is even scanty on the plains.

Vegetation, however, is in every part of the Gobi mainly dependent on rains; for no sooner have these fallen, and the sun's rays exerted their influence, than the young plants shoot up with a rapidity which compensates for their long period of inactivity. Green oases quickly manifest themselves where all was desert.

The powerful sun gradually evaporates the moisture and withers the grass, trampled under foot by the enormous herds of cattle; the Mongols depart; the dzerens seek other pastures; the larks fly away; and the desert remains as silent as the grave. The elevation of the Gobi between the Hurku hills and Urga nowhere exceeds 5,500', nor falls below 4,000'. No depressions occur in this tract, like those of Djaratai-dabas and the Galpin Gobi, or that along the Kiakhta-Kalgan road. The whole region is a lofty plateau, varying in height between these two extremes.

The Central Gobi, like the other parts of this desert, is absolutely wanting in irrigation. Even wells are fewer than in the tract south of the Hurku; yet, such as there are, the nomads depend entirely for their supply of water in summer on them, and on the temporary lakes formed after heavy rains, and retained on the surface of the hard clay, while in winter they satisfy their wants with snow, removing at that season to pastures which have been left untouched during summer on account of the absence of water.

The population of the Central Gobi, as in general throughout the Khalka country, is numerous and well-to-do. Enormous flocks of sheep roam near the encampments; camels, horses, and horned cattle in smaller numbers. Towards the end of summer all these animals become remarkably fat—a surprising circumstance if the scanty pasturage is considered. Most probably their good condition is mainly attributable to the freedom they enjoy, and also to the absence of insects, which are such a grievous torment in the more fertile districts.¹

On crossing the frontier of the Khalka country the principality of Tushetu-khan is entered, and we hastened by forced marches to Urga, it being a most desirous goal to reach; more especially as this was the wildest part of the Gobi, where want of water, heat, storms of wind,—in short, every adverse condition,—combines against one, and day by day undermines what little strength remains.

The only water to be had after crossing the Hurku hills was such as had formed temporary lakes after a heavy fall of rain, and by the side of which Mongols were, as usual, encamped; some of these lakes were but a hundred yards across, and 2' or 3' deep, yet a dozen or more yourtas would often be seen pitched by them, and their brackish water was rendered muddy and filthy by the large herds daily driven

¹ Tsaidam is an instance of this. Here cattle grow thin on good pasturage, only recovering in winter when they are relieved from their tormentors.

to drink in it, the heat of the sun raising its temperature to 77°. The first sight of this water was enough to disgust one, but we were, like the Mongols, necessitated to drink it, first boiling it and then adding brick-tea.

Eighty-seven miles north of the Hurku hills another trade route is crossed from Kuku-khoto to Uliassutai, practicable for carts, although the traffic is mostly on camels. Since the reinforcement of the Chinese garrison at Uliassutai after its destruction by the Dungans in 1870, the trade has considerably increased; supplies for the troops are sent this way, and Chinese merchants travel with millet and merchandise to barter with the Mongols for wool, leather, and cattle.¹ Another route, a hundred miles further north, is maintained for the conveyance of mails and officials between the two above-mentioned towns. Soon after leaving Kuku-khoto this track joins the Kalgan-Urga post-road, from which it again diverges at Sair-ussu² in the direction of Uliassutai.—*v. u. s.*

Northwards the character of the Gobi again changes, and this time for the better. The sterile desert becomes a steppe, more and more fruitful as a northerly advance is made. The shingle and gravel are in turn succeeded by sand, mixed in small quantities with clay. The country becomes extremely undulating. The gradual slopes of low hills³ intersect one another in every possible direction, and earn for this region the Mongol name *Kangai*,—*i. e.*, "hilly." This continues for upwards of a hundred miles to the north of the Uliassutai post-road, when the waterless steppe touches the margin of the basin of Lake Baikal; here finally, at Hangin-daban, you find yourself among groups and ridges of rocky hills, beyond which lie the well-watered districts of northern Mongolia.

The poor pasturage of the Central Gobi now gives place to rich meadow-land, increasing in luxuriance the nearer Urga is approached. The karymk, the budarhana, and the onion entirely disappear, and are replaced by several kinds of grasses, vetches, *Compositæ*, and carnations. Animal life, too, becomes suddenly abundant.

Water, however, is still as scarce as ever; of lakes and rivers there are none, and only an occasional spring or well, at no depth below the surface. Indeed, between Ala-shan and Urga there are no wells exceeding 8 feet in depth, and water is generally obtainable at a less depth by digging for it in the right place.⁴

In July and August the thermometer rises to 97° Fahr. in the shade. The nights are always warm, sometimes hot,⁵ and the air exceedingly dry, no dew falling. Although large clouds often gathered, only a few drops of rain fell to the earth, and a good shower is an unusual occurrence. There was,

¹ Chinese petty traders ply a barter trade all through the summer in all parts of Mongolia, especially in the east and centre.

² Sair-ussu is 220 miles south-east of Urga.

³ In this part of the Gobi the low hills are almost without rocks.

⁴ The wells in Ala-shan are also at no great depth from the surface.

⁵ Only on two occasions—*i. e.*, on August 21st and 24th—the temperature at sunrise fell to 43° and 41° Fahr.

however, a terrific downfall of rain in the Central Gobi in July, accompanied by large hail, which destroyed numbers of cattle and some people.

In August the weather is generally clear, but the violent winds, which invariably blew, lasted throughout the day and night, shifting several times in the twenty-four hours; westerly winds prevailed, with a northerly and southerly variation.

The beginning of September was marked by a sudden alternation from heat to cold. On the 8th of September at midday the thermometer stood at 79° Fahr. in the shade, whereas the next day it blew hard from the north-west with large flakes of snow, and the mercury fell to 32° Fahr. at sunrise.

After crossing the Hangin-daban range the banks of the Tola river are arrived at, the first river as yet seen in Mongolia. For 870 miles, *i.e.*, between Kansuh and this river, not a single stream or lake was seen, only stagnant pools of brackish rain-water. Forests were now seen, which darkened the steep slopes of the mount Khan-ola. A warm reception was given us by the Consul on our arrival at Urga on the 17th September.

THE MONGOLS. (*Prejvalski.*)

The Khalka Mongol has a broad, flat face, with high cheek-bones, wide nostrils, small narrow eyes, large prominent ears, coarse black hair, scanty whiskers and beard, a dark sun-burnt complexion, and, lastly, a stout thick-set figure, rather above the average height: such are the distinguishing features of this race.

The dress of the Mongols consists of a kaftan, or long robe, made of blue daba,¹ Chinese boots, and a wide hat, turned up at the brim. Shirts or under-clothing of any kind are unusual; warm trousers, sheepskin cloaks, and fur caps are worn in winter. In summer the dress, consisting of Chinese silk, is sometimes more elaborate; the robe or fur cloak is always fastened round the waist with a belt, to which are attached those invariable appendages of every Mongol, a tobacco-pouch, pipe, and tinder-box. Besides these, the Khalka people carry a snuff-box, which they offer on first meeting an acquaintance. But the pride of the Mongol lies in the trappings of his horse, which are thickly set with silver.

The universal habitation of the Mongol is the felt tent or yourta, which is of one shape throughout the country.

The yourta is indispensable to the wild life of the nomad; it is quickly taken to pieces and removed from place to place, whilst it is an effectual protection against cold and bad weather. In the severest frost the temperature round the hearth is comfortable. At night the fire is put out, the felt covering drawn over the chimney, and even then, although not warm, the felt yourta is far more snug than an

¹ Chinese cotton stuff.

ordinary tent. In summer the felt is a good non-conductor of heat and proof against the heaviest rain.

Their only occupation and source of wealth is cattle-breeding, and their riches are counted by the number of their live-stock, sheep, horses, camels, oxen, and a few goats—the proportion varying in different parts of Mongolia.¹

Thus, the best camels are bred among the Khalkas; the Chakhar country is famous for its horses, Ala-shan for its goats; and in Kokonor the yak is a substitute for the cow.

Cattle-breeding is the only occupation of this people; their industrial employment is limited to the preparation of a few articles for domestic use, such as skins, felt, saddles, bridles, and bows; a little tinder and a few knives. They buy everything else, including their clothes, of the Chinese, and, in very small quantities, from the Russian merchants at Kiakhta and Urga, Kobdo, and Uliassutai. Mining is unknown to them. The inland trade is entirely one of barter; and the foreign trade is confined to Peking and the nearest towns of China, whither they drive their cattle for sale, and carry salt, hides, and wool, to exchange for manufactured goods. (*See page 339.*)

The most striking trait in their character is sloth. The Mongol is so indolent that he will never walk any distance, no matter how short, if he can ride; his horse is always tethered outside the yourta, ready for use at any moment; he herds his cattle on horseback, and when on a caravan journey, nothing but intense cold will oblige him to dismount and warm his limbs by walking a mile or two.

Endowed by nature with a strong constitution, and trained from early childhood to endure hardships, the Mongols enjoy excellent health, notwithstanding all the discomforts of life in the desert, where during winter day by day the temperature registers—20° F.

Although as hard as nails, he cannot walk 15 or 20 miles without suffering great fatigue; if he passes the night on the damp ground he will catch cold as easily as any fine gentleman, and, deprived of his brick-tea, he will never cease grumbling.

The Mongol is a slave to habit. He has no energy to meet and overcome difficulties; he will try and avoid, but never conquer them. He wants the elastic manly spirit of the European, ready for any emergency, and willing to struggle against adversity and gain the victory in the end. His is the stolid conservatism of the Asiatic, passive, apathetic, and lifeless.

Cowardice is another striking trait of his character. Leaving out of the question the Chinese Mongols, whose martial spirit and energy has been completely stamped out, the Khalka people are vastly

¹ The price of cattle varies in different parts of the country, thus—

	In Khalka country.	In the Chakhar country.	In Koko-nor.	
Sheep . . .	2 to 3	2 to 3	1 to 1½	} Chinese <i>lan</i> (5s. 6d.) per head.
Oxen . . .	12 to 15	15	7 to 10	
Camels . . .	30 to 35	40	25	
Horses . . .	12 to 15	15	25	

inferior to their ancestors of the times of Chengiz and Okkodai¹ (Oktái). Two centuries of Chinese sway,² during which their warlike disposition has been systematically extinguished and suffered to stagnate in the dull round of nomad existence, have robbed them of every trace of prowess and bravery. (*See pages 313 et seq., 315 et seq., 321*)

The recent incursions of the Dungans into their territory proved how degenerate they had become. The very name of Hwei-Hwei, *i.e.*, Mussulmans, created a panic and caused them to fly ignominiously, without offering the least resistance to their foes.³ And yet every advantage was on their side; they were in their own country and were of course well acquainted with the localities—a matter of some importance in warfare, particularly in an arid desert like the Gobi; they could always outnumber the Dungans, who were badly armed and undisciplined. But, despite all this, the latter ravaged Ordos and Ala-shan, captured Uliassutai and Kobdo, although defended by Chinese regulars, invaded the Khalka country several times, and would have taken Urga, had it not been for the presence of some Russian soldiers. (*See page 300 et seq.*)

Although servility and despotism are so strongly developed among them that the will of the superior generally replaces every law, a strange anomaly is observable in the freedom of intercourse between rulers and the ruled.

Bribery and corruption are as prevalent here as in China; a bribe will work miracles, and nothing can be done without it.

The Dalai Llama of Tibet, residing at Llassa, is the head of the whole Buddhist hierarchy and sovereign of Tibet, acknowledging fealty, however, to China; but this submission is merely nominal, and is only outwardly shown by gifts, sent three times a year to the emperor.⁴

Equal to the Dalai Llama in sanctity, but not in political importance, is another Tibetan saint, Pan-tsiu-Erdeni;⁵ the third, and last, personage in Buddhism is the Kutukhtu of Urga. Next in rank come the remaining Kutukhtus or Gigenes, who live at the different temples dispersed throughout Mongolia or in Peking; there are upwards of a hundred of them⁶ in Mongolia. They are all terrestrial saints, of highly-developed holiness, who never die, but pass from one body to another.

¹ Okkodai, the third son and successor of Chenghiz Khan, established his capital at Kara-korum, and founded the walls and palace in 1234. See "Marco Polo," 2nd ed., vol. I. p. 229.—*M.* (*See page 439.*)

² That is to say, from the time when the Khalkas became subject to China in 1691, during the reign of Kanghi. Western Mongolia, the so-called Zungaria, was conquered by the Chinese in 1756.

³ It is to be remembered that the Mongols, although organised into banners, are trained to trust to the Chinese garrisons for defence. If left to defend themselves, they would probably do well.

⁴ The Chinese Government maintains a division of troops and an envoy plenipotentiary at Llassa, which seems somewhat inconsistent with merely nominal subjection.—*Y.* (*See page 256.*)

⁵ See *supra*.—*Y.*

⁶ One hundred and three in all. Hyacinthe's "Statistical Description of the Chinese Empire," Part II, p. 60.

The personal insignificance of the Dalai Llama, in the absence of family ties in the country, is the best guarantee the Chinese can have of the submission of Tibet, or at all events of their own security from an unruly neighbour. They have, indeed, good cause to be watchful, for if a talented, energetic person were to appear on the throne of the Dalai Llama, he might with one word, like the voice of a god, cause a rising of the nomads from the Himalayas to Siberia. Deeply imbued with religious fanaticism and the bitterest hatred for their oppressors, the wild hordes would invade China and cause it great injury. (*See pages 315 et seq., 319.*)

The influence of the Gigen is unlimited; a prayer offered up by one of them, the touch of his garments, his benediction, are regarded in the light of the greatest blessings humanity can enjoy; but they are not to be had *gratis*.

Lassa is the sacred city; hither large caravans of worshippers annually come, and, regardless of the difficulties of the long journey, esteem it a special mark of Divine favour to be allowed to fulfil their religious obligations.

The clergy, or so-called, Llamas,¹ are very numerous, and comprise a third, if not more, of the male population, who are thereby relieved from the payment of all taxes.² It is not difficult to become a Llama.

Llamaism is the most frightful curse of the country, because it attracts the best part of the male population, preys like a parasite on the remainder, and by its unbounded influence deprives the people of the power of rising from the depths of ignorance into which they are plunged.

But although this religion has taken so strong a hold on them, superstitions are equally prevalent.

Their everyday lives are full of suspicious observances. Buddhism inculcates principles of lofty morality, but it has not taught the Mongol to look upon every man as his brother and respect even an enemy.

At the end of the seventeenth century the Chinese, after sub-
Mongol organization, doing almost the whole of this country, allowed
(*See pages 625 et seq.*) its separate organization to remain unchanged,
only introducing a more efficient system of administration; and while maintaining the independence of its princes in local affairs, they placed them under the strict supervision of the Government of Peking. All the business connected with Mongolia is transacted by the Foreign Office (Li-fan-yuen), matters of high importance being referred to the Emperor. It is governed on the basis of a military colony; its chief divisions, or principalities, are called aimaks,³ each comprising

¹ Properly speaking, the word "Llama" is only applied by Mongols to their superior clergy; an ordinary member of that profession is called Huvarak. But the former name is much more generally used than the latter.

² Llamas holding important posts at the temples are entirely free from imposts; those non-officiating are paid for by their families.

³ Northern Mongolia, *i.e.* the Khalka country, is composed of 4 aimaks and 86 koshungs; inner and eastern Mongolia, with Ordos, of 25 aimaks, divided into 51 koshungs; the country of the Chakhars into 8 banners; Ala-shan forms 1 aimak, with 3 koshungs: Koko-nor and Tsaidam, 5 aimaks and 29 koshungs. Western Mongolia, so-called Zungaria, comprises 4 aimaks and 32 koshungs; but, as the

one or more *koshungs*, *i.e.*, banners, which are subdivided into regiments, squadrons, and tens. The aimaks and *koshungs* are governed by hereditary princes who acknowledge the Emperor of China as their lord paramount, and may not enter into any relations with foreign powers without reference to Peking. The *tosalakchi*, whose office is also hereditary, rank next; each banner has one, two, or four of these officials; the prince who is military chief of the banner has two lieutenants (*meiren zanghin*); every regiment has its colonel (*chialan zanghin*), the captains of squadrons (*somun zanghin*).¹ The whole military force of the aimak is under a *tsiang-tsiun* (general), chosen from among the Mongol princes.

The princes of the *koshungs*, or banners, assemble once a year for the gathering² (*chulkan*), presided over by one of their number, who must have been confirmed in his authority by the Emperor. These assemblies, at which local questions are decided, are under the control of the governors of the nearest provinces of China.³ (*See pages 313 et seq.*)

Some parts of the country bordering on China proper are modelled entirely after the Chinese system; such as the district of Cheng-ta-fu beyond the Great Wall, north of Peking, the aimak of Chakhar, north-west of Kalgan; and the district of Kuku-hoto (Kwei-hwacheng), still further to the west, near the northern bend of the Yellow River. Western Mongolia (Zungaria), until the late insurrection, was divided into seven military circuits,⁴ under a different form of government. (*See page 369.*)

The princely caste has six grades, ranking in the following order: Khan, Tsin-wang, Tsiun-wang, Behleh, Behzeh, and Kung. Besides these are the nobles owning land (*Tsagak-tai-tsi*⁵), the greater number tracing their descent from Chengiz Khan. The title descends to the eldest son by lawful marriage, if he has attained the age of nineteen, Imperial permission having been first obtained.

If there be no legitimate sons, the title may be transmitted to one of the natural children or to the nearest male relative, but not without the consent of the Emperor; the other children rank as nobles (*tai-tsi*), divided into four classes. In this way the princes never

numbers of its Mongol inhabitants were small, in comparison with the Chinese immigrants before the insurrection, it was divided into 7 military circuits. The aimak of Uriankhai includes 17 *koshungs*. Full details of the administrative divisions of Mongolia may be found in Hyacinthe's "Statistical Description of the Chinese Empire," part ii, pp. 88—112; and in "Timkowsky's Travels" (English translation edited by Klaproth, London, 1827, vol. ii, pp. 223—92). From these two sources I have derived my information on the territorial divisions and government of Mongolia. Aimak is properly a division of persons, not of territory, though it may have acquired a localised sense. Originally all the organization of Mongol authority had reference to persons who might be on the Volga one year and the Amur another.—Y.

¹ Every squadron has 2 officers, 6 under-officers, and 150 rank and file.

² Assemblies are also summoned on extraordinary occasions.

³ The Governor of Kuku-hoto has the charge of Ordos, western Tunit, and the nearest aimaks of Mongolia; Koko-nor and Tsaidam are placed under the Governor of Si-ning (in Kansu); the two westernmost aimaks of Khalkas are governed by the *tsiang-tsiun* of Uliassutai; and so on.

⁴ Two of these (Urumchi and Barkul) were included in the province of Kansu.

⁵ The name "Tsagak" is given to every proprietary chief in Mongolia.

⁶ The salaries of the princes alone amount to 120,000 *lans* of silver and 3,500 pieces of silk annually.

increase in number (there are 200 altogether), but the nobility are constantly becoming more numerous.

The princes, as we have said, enjoy no political rights, and are under the absolute authority of the Peking Government, which watches their actions with jealousy. Their salaries¹ are received direct from the Emperor, who promotes them at will from one class to another. Princesses of the Imperial family² are sometimes given in marriage to Mongol princes, in order to strengthen by family ties the power of China over their nomadic subjects. Every prince must appear at court once every three or four years to pay his respects to his sovereign; on these occasions they bring gifts, mostly camels or horses, receiving in return silver, silk, costly dresses, caps adorned with peacocks' feathers, &c., always of far greater value than they brought. Indeed, Mongolia costs China a round sum every year;³ on the other hand, the Middle Kingdom is secured from possible invasion by the ruthless nomads. (*See pages 313 et seq.*)

The exact population of Mongolia is unknown. Père Hyacinthe estimates it at three millions, Timkowski at two: in any case the number is insignificant in proportion to the extent of country. This could hardly be otherwise if we consider the conditions of nomad life, and how barren the Mongolian deserts for the most part are. The increase of population is also very slow, owing to the celibacy of the Llamas, and diseases which at times cause great ravages.

The Mongols are divided into four classes,—princes, nobles (tai-tsi), clergy, and common people. The first three enjoy all civil rights; the last are semi-independent military settlers, who are not liable to a land tax or to military service. Their laws are embodied in a separate code, published by the Chinese Government, to which the princes must conform in their administration; proceedings of minor importance are, however, decided according to traditional usage. The punishments are fines and banishment, and crimes and robberies with violence, in some instances death. Corporal punishment is inflicted on the common people, as well as on nobles and officials judicially degraded. Bribery, corruption, and every kind of abuse in the administration and judicial proceedings are most prevalent.

The people only pay a cattle tax to their princes; but on extraordinary occasions, such as when the latter travel to Peking, or to the assembly, on the marriage of their children or on removal of camp, special collections are levied. The Mongols pay no tax whatever to China, and are only liable to military service, from which, however, the clergy are exempt. The army is exclusively cavalry; 150 families form a squadron, six squadrons a regiment, the regiments of one koshung a banner. The people defray the cost of military equip-

¹ A prince of the 1st rank receives 2,000 *lans* of silver and 25 pieces of silk.

"	"	2nd	"	"	1,200	"	"	"	15	"	"
"	"	3rd	"	"	800	"	"	"	13	"	"
"	"	4th	"	"	500	"	"	"	10	"	"
"	"	5th	"	"	300	"	"	"	9	"	"
"	"	6th	"	"	200	"	"	"	7	"	"

Tsask-tai-tsi (nobles) receive 100 *lans* of silver and 4 pieces of silk.

² These princesses also receive fixed salaries from the Emperor, and are only allowed to come to Peking once in ten years.

ments, but Government provides arms. If the whole nation were called out for military duty, Mongolia ought to supply 284,000 men,¹ but less than one tenth of that number would be available. The *tsiang-tsiuns* (generals) of the *aimaks* (districts) ought to inspect the forces and examine their arms, but it is usual for every koshung to avoid this by bribery. The indolent Mongol will rather pay his money than turn out for military service. The Chinese Government is in one sense content with this, because it proves that the ancient martial spirit of the nomads is year by year becoming extinct. (See pages 313, 319.)

RACES OCCUPYING CHINA AND TRANS-MURAL CHINA. (*Temple's "Asia."*)

I.—Mongoloid Races of Mongolo-Tatar Polysyllabic Speech.

Sharra or Eastern Mongolians.	Khalka	{ Tushetu }	} North Mongolia mainly.
		{ Tsi-tseng }	
		{ Jasaktu }	
		{ Sain-noin }	
	Uchumsin; Chakar	} South, East, and South-East Mongolia.	
			Genshikten; Barin
			Kartsin; Jarot
			Uniot; Sunni
			Tumet; Kortsin
			Durban; Urut
Naiman; Ahkhanar	} North bend of the Hoang-ho.		
		Ordos	
Eleuts (Kalmuks) or Western Mongolians.	{ Chorass }	} Zungaria, Kuldja, N.-W. Mongolia.	
	{ Turgut }		
	{ Khoshot }		
	{ Durbat }		
Urianhai . . . . .	. . . . .	Upper Yenesei basin.
Sok-pa . . . . .	. . . . .	North East Kachi (North-East Tibet).
Taldi? . . . . .	. . . . .	West Kansuh.
Tungus Family	{ Manchus }	} Manchuria.	
	{ Tungus }		
	{ Solons }		
	{ Sibos }		
Túrki family	{ Taranchi }	} Kuldja.	
	{ Kirghiz-Kazaks }		
	{ Kara-Kirghiz }		
	{ Kashgarians }		
	{ Dolans }		
	{ Salars (Kara-Tanguts) }		
Hor-pa . . . . .	. . . . .	Central Tian-shan. Tarim basim, Kuldja. Kashgaria. ? About source of Yang-tse. West Kachi (North-West Tibet).

II.—Mongoloid Races of Korean Polysyllabic Speech.

Koreans Korea.

¹ Men are liable to military duty from the age of 18 to 60; one man in three of family is relieved from service. The arms are exceedingly bad, consisting of spears, swords, bows, and matchlock guns.

III.—Mongoloid Races of Tibetan Intermediate Speech.

Bod-pa (Tibetans proper)	.	.	.	.	.	Sanpo-basin mainly.
Tanguts	.	.	.	.	.	Kansuh, Koko-nor, Tsaidam.
Drok-pa	.	.	.	.	.	} Central Kachi, between Sok-pa and Hor-pa.
Chak-pa	.	.	.	.	.
Cham-pa	.	.	.	.	.	East of Noh, Tibet.
Kham-pa	.	.	.	.	.	? Central lake region, Tibet.
Chang-pa	.	.	.	.	.	East of the Khampa.
Si-fan	}	Andoan	.	.	.	} Tibeto-Chinese frontier, from Koko-nor to Yunnan.
		Tochu	.	.	.	
		Arru	.	.	.	
		Gyarung	.	.	.	
		Telu	.	.	.	
		Manyak	.	.	.	
		Melam	.	.	.	

IV.—Mongoloid Races of Chinese Isolating Speech.

Chinese proper	.	.	.	.	.	North and Central China.
Punti	.	.	.	.	.	} Kwang-tung.
Hwui-chan	.	.	.	.	.
Hakka	.	.	.	.	.	Kwang-tung, Fo-kien.
Hok-lo	.	.	.	.	.	Swatow district (Fo-kien).
Tungans	.	.	.	.	.	Kansuh, Zungaria, Kuldja.
Khambing	.	.	.	.	.	} Kuldja.
Chimpan	} extinct ?	.	.	.	.
Khatozun		.	.	.	.

V.—Highland Races of Undetermined Ethnical and Linguistic Affinities.

Miao-tse, or Nan-man group.	}	Man-tse (I. jeu)	.	.	.	} West Se-chuen.
		Sumu	.	.	.	
		Pe-lolo	.	.	.	} South bend of the Yang-tse.
		Shu-lolo	.	.	.	
		He-lolo	.	.	.	
		Sen-lolo	.	.	.	} South Se-chuen, north Yunnan.
		Chung	.	.	.	
		Nynchung	.	.	.	} Kwei-chow uplands.
		Tuman	.	.	.	
		Kilao	.	.	.	
		Kitao	.	.	.	
		Yao	.	.	.	
				Seng	.	.
		Tung	.	.	.	North Kwang-tung.
		Lyssu	.	.	.	} South-East Tibet, between Lu-tse-kiang and Lantsan-kiang.
Mosso (civilised Lyssu)	.	.	.	.	.
			.	.	.	North-west Yunnan, south of the Lyssu.
Lu-tse (Anong)	.	.	.	.	.	North of the Lyssu.
Remepang	.	.	.	.	.	East of the Lyssu.
Pagni (Pai, Terong, or Bayul)	.	.	.	.	.	West of the Lu-tse.
Tsarong	.	.	.	.	.	North of the Lu-tse.
Ku-tse	.	.	.	.	.	North of the Remepang.
Diju	.	.	.	.	.	North of the Ku-tse.
Jrupa	.	.	.	.	.	North of the Diju.
Mu-ua (Anampel)	.	.	.	.	.	Upper Irawady, Burmese frontier.
			.	.	.	West Yunnan.
Shutung	.	.	.	.	.	} Island of Hainan.
Shang-lai	.	.	.	.	.
Shuk-lai	.	.	.	.	.

RECENT RELATIONS BETWEEN RUSSIA AND CHINA, AND
RUSSIA'S ADMINISTRATIVE CHANGES MADE TO MEET A
WAR WITH CHINA.

At the time that Russia and China were negotiating the settlement of the Kuldja evacuation, the former power was occupied with the formation of three columns to move towards India, *viz.*, the Ferghana column from Margelan, the Amu-Daria column from Petro-Alexandrovsk, the Zerafshan column from Djam. These calls upon the troops in the Turkistán region and others noted in the accompanying extracts¹ from "Affairs in Turkistán," by Colonel Belyavsky, necessitated measures of reorganization being taken by Russia to meet, at the same time, a war with China; the extracts show how she is now endeavouring to remedy the defects of Turkistán as a base of operations against China so as to bring to bear upon her the forces of Turkistán and western Siberia in the first instance, and of those of Russia in the future.

The continuation of the trans-Caspian railway to Samarkand, Altyn Immel (at the entrance of the inlet into West China *viâ* Kuldja and the Tian-shan-pe-lu), and Sergiopol (at the head of the Zungarian Strait), to join the Siberian railway, concerns China as much as India. It is instructive to note how administrative limits in Russian Central Asia have been changed to meet the requirements of the Russo-Chinese frontier and those of strategy. Russia will feign, when time is ripe, to see in the Muhammadan provinces of Sin-kiang, Kansuh, Sz'chwan, and Yunnan, a source of weakness to herself and a possible understanding between them and her Central Asian Muslims, and consider it necessary to seek safety by bringing them under her own control.

One hundred years ago there were few Muslims in China; there are now 25 to 30 millions of them scattered throughout the Empire, and notwithstanding wars in Yunnan, Kansuh and Kuei-chow, and massacres, they are increasing yearly, and it seems likely that the three provinces named will before long contain a very large excess of Muhammadan population (*Chinese Times*). The Muhammadan population of Kashgaria, Zungaria, and Ili, cannot fail to be a great danger to China. (*See pages 307, 377, &c.*)

The Russian Turkistán province protected the whole of the Kirghiz steppes, causing them to become internal provinces, while Russia became conterminous with three Central Asian states, whose inhabitants did not recognise international engagements, and, in fact, hardly understood their meaning, deferring only to force. They were ready at any moment to declare a religious war against her, and to stir up an insurrection among her subjects, with whom they had had relations from time immemorial. At the same time a new Muhammadan power was being rapidly developed in China, which took shape in the Dungan insurrection. This had begun long before in the East, in the provinces of China proper, and in a short time, from 1862 to 1865, had spread over the whole west of China, and approached the borders of the Semipalatinsk province, where troubles began to arise among

Effects of the Muhammadan rebellion in China on Russian Central Asia.

¹ Transposed from 2nd to 3rd person.

Russia's nomad subjects, which took the form of plundering and cattle raids, and attacks by the Kirghese on the Kalmuks, and *vice versa*. The insurrection had become so serious that it began to be thought that, like the revolt of the Taipings, it could hardly be subdued; on the other hand, it was positively stated that "Russian territory had become permanently conterminous with very turbulent neighbours." The insurgent provinces were divided in 1867 into several independent states, among which were Kuldja and Kashgar, the latter under the government of Yákúb Beg, who had frequently fought against Russia.

It appeared absolutely necessary to Russia to prevent the possibility of a union between the Dungans and the Central Asians for combined action against her as infidels. She had already a considerable number of troops concentrated on her frontier, but there was a want of union among them, because they were under two independent commanders; who were a great distance (450 miles) apart, and from 650 to 1,300 miles from the theatre of operations; this, in the absence of the telegraph and of connecting roads, greatly hindered the local commanders in taking the prompt measures which were urgently required.

In order to get rid of these defects, and also on account of the necessity of giving to her newly-annexed territory a regular civil administration, it was decided, in accordance with the suggestion of a special committee, to make Turkistán a special government and a military district under the supreme command of a Governor-General.

This new government included the province of Turkistán in its entirety, which was now separated from the Orenburg government, and the Semirechia province, which was composed of parts of the Semipalatinsk province and of the Alatau district, taken from the West Siberian government. (See pages 593 et seq.)

General Kaufmann I., A. D. C., was appointed Governor-General of Turkistán, and was given power to enter into direct negotiations with the neighbouring Central Asian rulers, to declare war, and to conclude peace. As regarded the interior administration of the country, although he was to be guided generally by the scheme of government drawn up by the Steppe Commission, yet at the same time it was left to his discretion to alter or add to it as circumstances might require, but he was not to exceed the regulated expenditure.

The insurrection of the Dungans, which spread over all the west of the Chinese Empire, caused the revolt against the Chinese of the Taranchis, who in 1867 were formed into a separate independent state.

The Sultan, the ruler of the country, who was at first on friendly terms with Russia, began in course of time to manifest hostile intentions against her, to support the bands of brigands which infested the country, and to hinder trade, not allowing Russian merchants to enter Kuldja.

Russia's demands for a peaceful settlement of the disputes which had arisen were not only not complied with, but the Cossacks sent to the Sultan were insulted; moreover, there began to be troubles among her nomad subjects. For these reasons the Commander-in-Chief of

Fear of the Muhammadans of Russian Central Asia joining the insurgent Chinese Muhammadans.

Russia's frontier Governments organized to meet possible war with the Sinkiang province.

the Turkistán region ordered Lieutenant-General Kolpakovsky, the Military Governor of Semirechia, to march troops into Kuldja. After some fighting, in which the Russians were victorious, the Sultan gave himself up as a prisoner of war, and immediately afterwards, on the 22nd June 1871, Kuldja was occupied without resistance. On the occupation of the Ili province, the Russian Government proposed to the Peking Cabinet that they should take over the province which was in occupation, on condition that the Chinese should send enough troops to occupy it and to maintain their authority there. It did not appear probable that this proposal would be accepted in the state of affairs then existing in the Chinese Empire, when the Durgan insurrection was at its height and had spread so greatly that Russia was obliged to send a force to Urga for the protection of her Consulate there. Nevertheless, the Chinese accepted it with thanks; but the province remained in Russia's power until the Chinese should succeed in subduing their domestic troubles.

Simultaneously with the Russian advance into Khokand, the annexation of Zarafshan and Ferghana, &c., certain occurrences in the east, in the Chinese Empire, in conjunction with the results obtained in the Akhal-Tekke oasis, caused a complete change in the importance of the Turkistán Government and led to a change in its composition. The Dungan insurrection, which in 1867 was considered to be so strong that it was expected to cause the downfall of the Chinese Empire, was unable to maintain itself against the Chinese. The hypothesis regarding the weakness of the Chinese power was not justified by the result. Having adopted the arms and equipment of European armies, the Chinese patiently, step by step, advanced from the east, conquering the Dungans, and after the death of Yákúb Beg quickly occupied Kashgar, having pushed forward their posts to the west to Ulugtchat, thus coming into direct contact with our boundaries. The re-establishment of the Chinese power delivered Russia from contact with the restlessness of separate Musulman states, but at first created new difficulties, for the Chinese did not delay in asserting their right to Kuldja, which had been in Russia's possession since 1871. The negotiations arising from this matter assumed so sharp a character that in 1880 war threatened to break out with China. All the attention of the Turkistán Government was fixed on the Kuldja affair, and all available troops were rapidly drawn towards the Chinese frontier. When it was proposed to send a detachment of the Turkistán troops, consisting of 18 companies, 6 sotnias, and 14 guns to Tcharjui, to the assistance of the Caucasus troops in their operations against the Tekes, General Kaufmaun at first approved, but afterwards refused permission on account of the Chinese complications. Subsequently a small detachment from the Turkistán district was ordered to Akhal Teke; it crossed the Turkomán desert and took a glorious part in the subjugation of the Akhal Teke oasis.

At the time when the forces of the Turkistán military district were still concentrated about Djam to advance into Afghánistán, rumours began to be received from the east, one more alarming than

Kuldja occupied by Russian troops.

Urga occupied.

Russian Central Asian Government again reorganized to meet the political, and military policy of Russia and coming wars.

the other, of the intentions of the Chinese regarding Kuldja. These resulted in fresh demands upon the forces of the district, and in the concentration of troops in the Ferghana and Semiretchia provinces.

As is well known, the pacification of the Dungan rising cost the Chinese great exertions, and required a considerable period of time.

In 1874 the Chinese were still in western China, with their advanced troops at Su-chou; but their movements further to the west were hampered by a deficiency of provisions and by the opposition of the troops of Yeddishahar, led by the Badaulat Yákúb. The delivery of supplies by Russian merchants from western Siberia, and the death of Yákúb of Kashgar, relieved the Chinese of their difficulties. The Chinese occupied the northern and southern imperial roads, and began to press for the fulfilment at an early date of the promise given by the Russian Government regarding the restoration of Kuldja.

At the same time, in the western provinces, an increase of strength was noticed in the Chinese troops, who were partly armed with breech-loaders.

The officer commanding the troops in the Semiretchia province, having received private information from the merchant Kamensky that the arrival of fresh reinforcements, to the number of 35,000 to 40,000 men armed with breech-loaders, was expected at Shikho and Urumchi in the middle of May 1878, and that hostile operations against Kuldja were to be begun by the Chinese on the arrival of these forces, proceeded immediately to form three sotnias from the furlough

Cossacks of the Semiretchia Voisko; and General Kaufmann was requested to detach from the Syr-Darya province three other sotnias whose relief time was due, to reinforce the troops protecting the frontier entrusted to his charge.

General Kaufmann considered it impossible, in consequence of political circumstances connected with a probable rupture with England, to comply with the request of General Kolpakovsky, but he deemed it necessary to reinforce the troops of the Semiretchia province. He accordingly determined to form two reserve companies of 84 files each, and a half battalion of two companies of the same strength from the reserve men and from the supernumeraries at his disposal, although this changed the general plan for the formation of the reserve troops which were intended to increase the strength of the troops of the district for operations against Afghánistán.

Information obtained, and subsequent reconnaissances, showed that the first rumours of the concentration of Chinese troops on the frontiers of the Turkistán district were much exaggerated. It appeared that the troops quartered over the whole area of Kashgar, on the northern Imperial road from Turfan to the Russian frontiers and at Tchugutchak, did not number more than 20,000 men; of these, 12,000 to 15,000 men were distributed from Turfan and Urumtchi to Shikho, about 1,700 were at Tarbagatai, and the remainder were in Kashgar. These troops were badly disciplined and ill-armed; they were obliged to cultivate the ground themselves to obtain supplies of grain, and in any case they could scarcely offer serious resistance to organised European troops. (*See page 39.*)

The information obtained, and also the constant negotiations

which were finally brought to a close on the 20th September 1879 by the conclusion of the Livadian treaty, put a stop to further armaments on our side; but when the treaty, signed by Tchung-han, was not ratified by the Chinese Government, and as Tchung-han himself was threatened with capital punishment for signing it, the Russian Government deemed it necessary to take preliminary measures in case of war with China on her Asiatic frontiers and in the Pacific; and this determination was communicated to General Kaufmann at the commencement of March 1880. The Imperial commands were then given to forbid the supply of provisions from Russian territory to China.

Measures taken to meet
China in 1880.

The demands made upon the Turkistán authorities were, however, not limited to this. The failure of the Akhal-tekke expedition, 1879, compelled the Government to take measures on all sides to ensure the success of the ensuing campaign, and therefore to provide that the Turkistán troops should supply a special force for a demonstration against Merve during the Akhal-tekke expedition. The authorities of the Turkistán district had concentrated all their attention on Chinese affairs, and General Kaufmann found it necessary to delay the despatch of the force for operations against the Tekkes, in the belief that the demonstration could have no decisive significance.

The preparations in Turkistán against China were carried on with the greatest degree of energy and success. On the first news of the condemnation of Tchung-han, although there was as yet no alarming news from the frontier, General Kaufmann took measures to prepare in Kuldja supplies and forage for six months for a force of 5,000 men and 2,500 horses; this was completed about the 14th March. Subsequently, steps were taken for the formation of the 2nd and 3rd Semiretchia Cossack regiments of the 2nd and 3rd categories (their formation was completed on the 1st May), of a machine gun battery at Vernœ, and of two rocket batteries and half a mountain battery at Tashkent.

Supplies collected at
Kuldja, and

troops raised, &c.,

The reserve men of the Turkistán district were formed into two companies at Vernœ, and five at Tashkent, with the object of forming a reserve at Tashkent while the main force of the district was on the Chinese frontier. The rank and file, and also the Orenburg, Ural, and Siberian Cossacks, who had served their time, were retained on service.

These measures received the Imperial sanction, but at the same time orders were given, firstly, to observe a certain amount of patience in the formation of fresh cadres; and, secondly, to observe the greatest caution, so as not to bring on hostilities with the Chinese, and on no account to cross the frontier.

General Kaufmann subsequently formed two field treasuries, the main one at Kuldja and a secondary one at Ferghana, without previous warning to the Finance Minister. In case of an outbreak of war he proposed to arm the Russian population of the Stanitsas of the Semiretchia province and to call upon the Dungan population to co-operate with them against the Chinese; in addition to this he had already formed during

and the Dungans to be
called upon to co-operate.

the period of the preliminary preparations, to reinforce the troops at Narin, a sotnia of Kara-Kirghiz Militia under the command of Shabdan, while unarmed djigits were called in for the observation of the passes over the Ala-tau range. General Kaufmann considered a struggle with China as a very serious affair, both on account of the means at the disposal of that Empire, as well as from the fact that the western Chinese army was led by Tso-Tsung-tang, the suppressor of the Dungan rebellion. Holding these views, General Kaufmann deemed it necessary to reinforce the troops of the districts

Western Siberia to supply troops.

from the resources of western Siberia, in which case the troops of this latter district should be placed under the orders of the Commander-in-Chief of the Turkistán district. The War ministry, while agreeing with this view, thought it necessary to place at General Kaufmann's disposal a larger force than he had asked for; and, instead of one battalion, in case war should prove inevitable, they proposed to form seven battalions, and to send 4,400 men to Turkistán to form four reserve battalions.

In addition to this, in case it were decided to strike a decisive blow at the Chinese which would drive them far away to the east of the Russian frontiers, and also in view of possible eventualities on the southern frontier of the district, General Kaufmann declared it to be necessary to reinforce the troops of the district by at least one division of infantry and two cavalry regiments, with a corresponding proportion of artillery, towards the outrun of 1880, or, at latest, in the spring of 1881; if, however, this proposal could not be realised, then a railway should be constructed to Tashkent. The Ministry of War refused to send reinforcements from European Russia, but considered it feasible to agree to the laying of a line of railway at first as far as Sir-daria. The latter course received the Imperial sanction, 31st May 1880.

The sum of Rbls. 4,074,496 was assigned for the expenses of maintaining the troops of the Turkistán district which had been collected against the Chinese.

The troops of the Turkistán district detailed for operations against the Chinese were disposed along the western frontier of China and formed several detachments, the main force being in the Kuldja rayon, *viz*, 36 companies, 18 sotnias, 3 guns, 8 rocket troughs, and 4½ posts; in Ferghana 15 companies, 9 sotias, 12 guns, and 8 rocket troughs; in addition, there were outpost detachments in Naryn, Karakol, and Bakhta. After deducting all these troops there remained in Tashkent two and a half battalions and 10 guns.

When the concentration of the troops was concluded, General Kaufmann insisted upon the necessity of moving the Kuldja and Ferghana forces into Chinese territory, so as to take advantage of the

General Kaufmann's plan.

unprepared state and dispersion of the Chinese forces, and so as to inflict a decisive defeat upon them. His final aim in so doing was the formation of separate Musulman Empires, the one to the north under Dungan supremacy with Boyan-Akhun at its head, and the other in Yeddi-Shar, under Bek Kuli Beg, the son of Yákúb Beg.

Having regard to the Russian position, and to the impossibility of undertaking operations in the Amur and in South Ussurian region, this

proposal was negatived, and the whole of the Kuldja force was ordered to winter in the Kuldja rayon, in spite of General Kaufmann's representations as to the necessity of strengthening the reserve at Tashkent. This last representation on the part of General Kaufmann had as its motive the necessity of securing the position from the south, and of having reinforcements for the troops of Ferghana.

In representing the necessity of withdrawing a portion of the Kuldja force to Tashkent, the Commander in-Chief of the Turkistán district gave it as his opinion that, with the approach of spring in 1881, when hostilities were to begin, the advance should be made with the main body from western Siberia, where fresh troops should also be formed for this purpose, while a defensive rôle should be adopted from the Kuldja side.

This latter proposition encountered opposition from the Head-quarter Staff. Count Heyden thought that such an enterprise would require for its fulfilment a minimum of two years, and an expenditure of Rbls 42,000,000. With all this Russia would perhaps be able to reach Hami; but even this amount of success could not have a decisive significance in a struggle with China. On his side, Count Heyden thought it more advantageous to raise a rebellion in western China.

The wish for peace, both on the Russian and Chinese sides, *and Russia's readiness for war, especially at sea*, led to the mutual concessions which resulted in the treaty of St. Petersburg in 1881, on the conclusion of which the detachments of the Turkistán force concentrated on the Chinese frontier were withdrawn; in June the export of provisions to China was again permitted. It is necessary to remark that the illness and subsequent death of General Kaufmann had a powerful influence on further events.

The extensive warlike preparations undertaken in the Chinese Empire might eventually have influenced the situation in Russia's Asiatic outskirts and have compelled her to alter the organization and administration of the forces in Asia, with a view to the strengthening of her defences and to the observation of the Chinese frontier. Special attention was directed to Turkistán, because two points on the western Chinese frontier were suitable for the passage of troops and caravans,—*viz.*, Tchugutchak and Kuldja. The part of the frontier where Tchugutchak is situated was in the charge of the West Siberian Command, but the Ili valley and the Semeritchia province were under the Turkistán Government. The two roads through Tchugutchak and Kuldja join in the so-called Imperial road, which constitutes the only communication between the west provinces of the Chinese Empire and China proper, and which would consequently form an independent line of operations in case of war. (*See Preface, page xxxvi; and Vol. I—"Roads of commerce commanded by Si-nan-fu."*)

The western part of the Chinese Empire which adjoins Russia's Asiatic frontiers was united under the direction of one Governor-General, who communicating, in reference to similar questions, with her two Governors-General, received conflicting replies. This difference of views between two Governors-General was clearly a source of embarrassment to the Russian Central Government.

To obviate this, and to place all the affairs connected with

western China under one head, the Semeritchia province was separated from the Turkistán Government, and, together with the Akmolinsk and Semipalatinsk provinces, was transformed into the special Government of the Steppe, the West Siberian province being abolished. (*See page 593 et seq.*)

After this reorganization, the general affairs of Central Asia were left chiefly to the jurisdiction of the Governor-General of Turkistán, but in connection with China he dealt only with the frontier affairs between the Kashgar and Ferghana provinces, which are divided by the high and very difficult Kashgar Daban mountains, which are, moreover, very thinly populated.

RUSSIA'S PRESENT MILITARY ARRANGEMENTS ALONG THE CHINESE FRONTIER.

The restoration to China of her former provinces considerably altered Russia's position in Turkistán. On the conclusion of the St. Petersburg treaty her relations with China could no longer give rise to those unexpected misunderstandings which had occurred up to 1877 in her relations with rulers who did not recognise treaties, and who also were powerless to carry them out. Instead of frequent expeditions against this Khan, or that Sultan, she became neighbour of an empire the interruption of peaceful relations with whom affected the general interest of the realm, in which case the dispute could not be settled by the forces of the Turkistán military district, but would require the assistance and co-operation of the other Asiatic districts, and the resources of European Russia. Having regard to this, and also in view of the extensive preparations made by the Chinese Empire, the War Minister raised the question of reorganizing the military forces in the three districts bordering on China.

Measures taken by Russia on the rendition of Kuldja to meet requirements of a campaign against China.

Having regard to the masses of troops which the Chinese might maintain in Kuldja, Zungaria, and Kashgaria, under the circumstances attending the colonization of these countries; the improved tactical education of the Chinese troops under instructors trained at Berlin; the possibility of simultaneous complications on our eastern and southern frontiers; the strategical importance of the Turkistán region, from the point of view of Imperial policy; and also the distance of the region from the sources of supply;—General Kaufmann, in conjunction with the officers commanding troops in the provinces, deemed it necessary to make a considerable increase to the troops of the district, and to raise the strength of the infantry to four brigades of eight battalions each, independently of the existing rifle brigade; to increase the Cossacks to four brigades of two regiments each, with a corresponding force of artillery; and further that the troops of the Amu-Daria section should not form a portion of the brigades, on account of the remote position of the section, and should be placed under their own commander, who would have the powers of a divisional commander. If these proposals were carried out, the troops of the district would be increased by 38 companies of infantry, 9 sotnias of cavalry, and 8 batteries (62 guns). The local detachments would remain at the same strength as previously. This reorganization would require an annual increase in the *personnel* of 48 officers, 12,348

rank and file, which in its turn would necessitate a fresh yearly expenditure of not less than RbIs. 1,951,840, an immediate outlay of RbIs. 1,434,655; these, together with the other demands put forward by the authorities of the Asiatic districts, would require an increase of 256 officers, and 23,915 rank and file, would cause a fresh annual expenditure of nearly RbIs. 4,000,000, and, in addition, an immediate disbursement of RbIs. 3,790,000.

Such extensive demands, in the opinion of the Head-quarter Staff, were not evoked by any extreme necessity. As regarded the Turkistán military district especially, the plan of reorganization of the local authorities, based upon the simultaneous occurrence of certain complications upon the eastern and southern frontiers of the region, did not accord with the existing state of affairs. The immediate neighbours of the Governor-Generalship of Turkistán were the western provinces of China, Bukhára, and Khiva.

Western China is the weakest part of the Chinese Empire, since this vast and barren province is inhabited by a Mussulman population, hostile to the Chinese, and which has frequently raised the standard of rebellion. The Celestial Government had only recently succeeded in subduing the revolted Dungans and in firmly establishing its authority in their country, after a year of enormous exertion and extensive armaments. The actual condition of Chinese Turkistán, separated by considerable deserts from the populous and fertile provinces of the interior of the Celestial Empire, rendered the defence of this region and the concentration of troops in it a matter of extreme difficulty for the Chinese; but at the same time these very conditions deprive offensive action in this direction, on Russia's part also, of any decisive military significance, inasmuch as the absence of any primary objective does not conduce to a decision of the struggle, which would be of advantage to her. Accordingly, it was considered that, in case of a struggle with China, this theatre of war would only have a secondary importance.¹ (*See Preface, page xiv, and pages 588, 688.*)

The importance of Turkistán to Russia is likewise serious in the event of external complications. In a war with China the troops of the Turkistán district would have as their objective Kashgar, which lies at a distance of 200 miles from Fort Gultcha. There is no doubt that the occupation of Kashgar would serve as a signal for a general rising of the Musulman population of the western provinces of China, and would decide the fate of the Chinese dominion and its western provinces, and would facilitate all operations against Kuldja.

The construction of a railway to Tiumen permits Russia in case of necessity to reinforce the troops of the Omsk district, which in its turn enables her, when necessary, to move the forces in Semiretchia to the support of Turkistán; and the arrival of the first reinforcements at Tashkent will require not more than 41 days.

Importance of the Tiumen, Omsk, Tomsk (Siberian railway), in operating from Central Asia against China.

¹ The importance of its possession as a step towards the acquisition of China's western provinces and a footing in the Wei valley cannot have been overlooked by the Russian War Office. The theatre of Manchuria is a more important one, but a less favourable one at present.—*M. S. B.*

The division of the Russian Asiatic provinces into the Omsk and Turkistán districts and the trans-Caspian province is important, as each of these parts has a thoroughly clear and strictly defined part to play, in a political and military sense, for the maintenance and development of the power of Russia in Asia, and in the decision of the vital problems of her policy in the West.—(*Belyavsky*.)

Russia's principle is to form reserve battalions in the frontier districts of Central Asia capable of expansion in time of war, thus affording relief to the Imperial treasury; to obtain unity in the civil and military administration in the districts bordering on China, and on the frontiers of Zungaria and the Kuldja region. In addition to applying the above principles, in January 1882, the Semiretchia province was separated from the military district and Governor-Generalship of Turkistán and incorporated in the Governor-Generalship of the Steppe.

Russia had at her disposal for active operations in Asia the following regular troops:—

In 1879, before the preparation for war with China.

	Peace Establish-ment.	War Establish-ment.
Orenburg district, 4 battalions and detachments	8,356	8,356
Turkistán " 20½ " 8 batteries, and detachments	36,614	36,614
Western Siberian district, 6 battalions, 1 battery, and detach-ment	11,566	11,813
Eastern Siberian district, 9 battalions, 3 batteries and detach-ments	11,735	14,634
TOTAL	68,271	71,417

In 1882, after the introduction of the recent changes.

	PEACE ESTABLISH- MENT.		WAR ESTABLISH- MENT.	
	Excluding Cossacks.	Including Cossacks.	Excluding Cossacks.	Including Cossacks.
Trans-Caspia, 7 battalions, 2 batteries, and detachment	6,961	8,178	8,085	9,302
Turkistán 24½ battalions, 8 batteries, and detachments	25,732	29,833	30,967	35,349
Omsk, 12 battalions, 5 batteries, and de-tachments	18,902	22,290	26,541	35,444
Eastern Siberia, 10½ battalions, 3 batteries, 2 sotnias, and detachments	14,917	19,087	23,772	35,446
TOTAL	66,512	79,388	89,355	115,541

Garrisons.—Russo-Chinese Frontier, 1886.

	Garrisons.	Infantry.	Cavalry.	Artillery.	Engineers.	Remarks.
Frontier Sin-kiang Province.	SAMARKAND.					
	2nd Turkistán Line Brigade .	6th, 9th, 11th, 19th.	...	...	...
	<i>West Siberian Battalion</i> at- tached from Omsk district.	8th .	...	...	...
	Ural Cossacks . . . . .	...	2nd .	...	...
	1st Semiretchia Cossacks .	...	} 1 sot. Margelan, 1 sot. Kokand. }	} ...	} ...	
	Turkistán Artillery, Brigade Tashkend.	...				
	TASHKEND.					
	Turkistán Rifle Brigade .	1st, 2nd, 3rd, 4th	...	...	...
	1st Turkistán Line Brigade .	1st, 10th, 12th.	...	...	...
	<i>West Siberian Battalion</i> , at- tached from Omsk district.	7th .	...	...	...
	5th Orenburg Cossacks .	...	(1 sot. Fort No. 1.)	...	...
	Turkistán Artillery Brigade .	...	...	2nd, 5th	...	
	Orenburg Horse Artillery Battery.	...	...	2nd .	...
	Turkistán Sappers . . . . .	...	..	...	$\frac{1}{2}$ Batta- lion.	
	KOKAND.					
	4th Turkistán Line Brigade, Margelan.	18th .	...	...	...
	MARGELAN.					
	3rd Turkistán Line Brigade, Andijan.	20th .	...	...	...
	4th Turkistán Line Brigade .	2nd, 14th, 15th.	...	...	...
	Orenburg Cossacks . . . . .	...	6th .	...	...
Turkistán Artillery Brigade } Tashkend . . . . . }	...	...	3rd .	...	
Turkistán Horse Mountain Battery.	...	...	...	...
NAMANGAN.						
3rd Turkistán Line Brigade, Andijan.	7th .	...	...	...

Garrisons.	Infantry.	Cavalry.	Artillery.	Engineers.	Remarks.
VERNŒ.					
<i>West Siberian Line Battalion.</i>					
West Siberian Line Brigade, Vernœ.	6th .	...	...	...
<i>West Siberian Line Battalion.</i>					
Not attached to a Brigade	1st .	...	...	...
Siberian Cossacks . . . .	...	2nd .	...	...
<i>Battery.</i>					
West Siberian Artillery Bri- gade, Viernyi.	...	...	1st .	...
West Siberian Sapper Com- pany.	...	...	...	?
KARAKOL.					
<i>West Siberian Line Battalion.</i>					
West Siberian Line Brigade, Vernœ.	5th .	...	...	...
<i>Battery.</i>					
West Siberian Artillery Bri- gade, Viernyi.	...	...	3rd .	...
DJARKENT.					
<i>West Siberian Line Battalion.</i>					
West Siberian Line Brigade, Vernœ.	3rd .	...	...	...
Siberian Cossacks . . . .	...	1st .	...	...
ZAISAN.					
	1 battalion	1 regi- ment (Cos- sacks.)	1 battery	...	
SEMPALATINSK.					
<i>Battery.</i>					
West Siberian Artillery Bri- gade, Viernyi.	...	...	2nd .	...

	Garrisons.	Infantry.	Cavalry.	Artillery.	Engineers.	Remarks.
Frontier Sin-kiang Province—concluded.	<i>West Siberian Line Battalion.</i>					
	Not attached to a Brigade .	2nd .	...	...	...
	UST KAMENOGORSK.					
	West Siberian Horse Mountain Battery.			?		
	KRASNOYARSK.					
		I battalion	I detach- ment, Cos- sacks.	...	...
	IRKUTSK.					
		I battalion	I detach- ment, Cos- sacks.	...	...
Frontier Mongolia.	<i>Troitskosavsk.</i>					
	(Trans-Baikal).					
	East Siberian Line Battalion .	4th .	...	...	...
	MINES OF KARA.					
	Trans-Baikal Cossack Battalion	2nd .	...	...	...
	TCHITA.					
	Trans-Baikal Cossack Battalion	1st .	...	...	...
	Trans-Baikal Cossacks .	...	1st .	...	...
Trans-Baikal Cossack, Horse Artillery Battery.	...	...	2nd .	...	
	<i>Park.</i>					
	East Siberian Mobile, Half Park.	...	...	...	...	Park.

Garrisons.		Infantry	Cavalry.	Artillery.	Engineers.	Remarks.
Frontier Mongolia —continued.	VERKHUENDINSK.					
	Trans-Baikal Cossack, Horse Artillery Battery.	...	...	1st	...	
	Strictinsk.	1st Bn.	...	...	...
Manchurian Frontier.	BLAGOVIESHTCHENSK.					
	(Amur.)					
	East Siberian Line Battalion .	2nd .	...	...	...
	Amur Cossack Regiment.					
	Irkutsk and Krosnoyarsk Sotnia	...	...	...	...
	Battery (Mountain Division at Khabarovka).					
	East Siberian Field Artillery Brigade, Khabarovka.	...	...	1st	...	
	KHABAROVKA.					
	(Primorsk.)					
	East Siberian Line Battalion .	3rd .	...	...	...
KAMEN-RYBALOV.						
Ussuri Cossack Half Battalion	$\frac{1}{2}$ Bn. .	...	...	...
ATAMAN'S POST.						
(Primorsk.)						
Ussuri Sotnia . . . . .	...	1st	...	...
NIKOLSKOE.						
(Primorsk.)						
Nikolskoe (Primorsk province)	3rd, 4th	...	...	...

	Garrisons.	Infantry.	Cavalry.	Artillery.	Engineers.	Remarks.
Manchurian Frontier—continued.	<i>Battery.</i>					
	East Siberian Field Artillery Brigade, Khabarovka.	...	...	2nd	...	
	ANUTCHINO. (Primorsk).					
	1st East Siberian Rifle Brigade	2nd Battn.	...	...	...
	RAZDOLNÆ. (Primorsk).					
	1st East Siberian Rifle Brigade	1st Battn.	...	...	...
	VLADIVOSTOK.					
	East Siberian Line Battalion .	1st	...	...	...
	" " .	5th	...	...	...
	ENGINEERS.					
	East Siberian Sapper Company.					
	MANGUGAI.					
	East Siberian Field Artillery Brigade, Khabarovka.	...	...	4th Battery	...	
	SLAVYANKA. (Primorsk.)					
	2nd East Siberian Rifle Brigade, Novokievskœ. (Primorsk Province.)	7th Battn.	...	...	...
NOVOKIEVSKÆ. (Primorsk.)						
2nd East Siberian Rifle Brigade, Novokievskœ. (Primorsk Province)	5th Battn.	...	...	...
Ussuri Sotnia . . . .	...	2nd	...	...
East Siberian Field Artillery Brigade, Khabarovka.	...	...	3rd Battery	...		

	Garrisons.	Infantry.	Cavalry.	Artillery.	Engineers.	Remarks.
Manchurian Frontier—concluded.	NOVGORODSK.					
	(Primorsk.) 2nd East Siberian Rifle Brigade, Novokievskœ. (Primorsk Province.)	6th Battn.	...	...	...

CHINESE MILITARY POSITION IN TRANS-MURAL CHINA.

The position held by China along the whole length of her Russian frontier has of late occupied the attention of British residents in China; their opinions are fairly expressed by the following extracts taken from the *Chinese Times*.

Messrs. James, Younghusband, and Fulford have recently visited Manchuria. The reports of these gentlemen, together with the local opinion given, and writings of Russian officers and others, enable a comprehensive view to be taken of the Chinese military position along the Russian frontier. (See pages 17 et seq.)

Manchuria, whose population is estimated by Mr. James at 22,000,000,—a figure greatly exceeding previous suppositions,—contains 380,000 square miles of territory and a vast diversity of country. There are mountains and large rivers, immense swamps, inexhaustible forests, volcanic hills, and lands of the highest fertility. The Manchu people, originally war-

like and predatory, who thrice conquered China, are being gradually displaced by Chinese settlers, chiefly from Chili and Shantung, so that there are now twenty Chinese residents for one Manchu Tartar. The Manchu language, which in many respects is better than the Chinese, as it is grammatical and flexible, is in disuse, and in fact almost dead, and the old Manchu customs are for the most part now obsolete.

The assimilation of the two races, both of the Turanian family, is almost complete, and the result is good. The Chinese people, with Manchu admixture, are hardy, manly, and independent, and the few pure Manchus remaining are being turned into soldiers, an occupation for which they are by nature well fitted. But the Manchus are now only a remnant in their own land, and in two or three decades will be thoroughly absorbed amongst the Chinese population.

The country is in all ways of very great value to China. It is the cradle of the dynasty, a most productive land, with superb timber and incalculable mineral wealth, and it is absolutely necessary that the Imperial Government should strengthen itself there in view of approaching dangers. The cession of the tract between the Usuri and the sea, extorted at a critical time by Ignatiev in 1860, has greatly weakened the strategic

hold of China; and now that affairs, by reason of apathy or neglect, are going on in a bad way in Korea, China may suddenly find herself without Mongolia, and, by the loss of Korea—as a vassal state—Manchuria will be hemmed in by hostile neighbours. The Empire then will be without means of defending Manchuria, and will see it gradually undermined and torn away from her.

No less on account of its fertility and mineral wealth as from its natural situation is it particularly valuable to Russia. The nation that owns Manchuria will be practically mistress of China.—(*James.*)

We do not speak of vague possibilities, but according to the progress of affairs now visible—of probabilities; and to any one who examines the question it will be plain that China without Manchuria—and the firm possession of Manchuria depends on the virtual or actual possession of Korea—will indeed be pitiable. The Empire will be shaken to its foundations.

Mr. James points out that in Manchuria there is a numerous and fine people, and that under reasonably good management the domain would be very profitable to the Empire. The crops raised are very large, and the husbandmen are prosperous folk. If railways were made to convey bulky produce to markets at cheap rates, the yet untilled and large areas of productive ground would be cultivated, population would swarm in, and all the elements of prosperity in peace and strength in war would increase.

It is probable that the Imperial Chinese Government will soon, by force of circumstances, abandon its policy of apathy, or, perhaps, seeming apathy, and take action to provide for the safety of the Empire. The outlook is indeed threatening. No one who has any knowledge of the matter doubts the absolute correctness of Colonel Prejvalski's statement that Chinese Turkistán, Ili, and Mongolia, or great part of it, are precarious possessions, and are likely before many years pass to gravitate to Russia; and if the hold upon Korea is lost, Manchuria will be so hedged in that its possession will also be difficult. To hold Turkistán, Ili, and Mongolia, will overpass the powers of the Empire, but their loss will not greatly injure the state. According to a recent memorial 40,000 Chinese soldiers are absolutely required to garrison the north-western possessions, and as the numerous Chinese settlers who have gone to Kashgaria mostly became Muslim, the whole population, Kashgarians and Chinese immigrants, will soon have identity of political interest, which means aversion to Chinese rule. (*See Preface.*)

In view of the perils now impending and of the vast change in the Chinese strategic position that will be made by a railway, giving Russia power of access to Europe by the Urals on one side, and to the Pacific Sea by Vladivostok on the other, the Imperial Government will do well to consider the necessity of a system of railways, first connecting Moukden with Peking and branching from Moukden in one direction to Tsitsihar in the first case, with an extension towards the Amur later; and by a line from Moukden to Kirin, extending from thence to Sansing for one objective, and by another route to Ninguta and Hun-chun.

The traffic would be sufficient to render the lines profitable, so

that the establishment of iron roads would be a security to China, increase at once the prosperity of the people and the revenues of the Imperial Government, and would enable the Empire to provide effectually against the dangers now impending over the northern line of frontier and the Pacific shores. (*See page 50.*)

Manchuria is eminently defensible. north and south, or nearly so, there is one fine, natural boundary, the long range of In-shin Kinghan mountains, and running almost east and west there is the great River Amur. Towards the east, running north and south, is the Usuri. The mountains, hills, forests, great and small streams, make up an admirable frontier, which can be adapted for military purposes of offence and defence without difficulty. And in

Defence.

the territory are some twelve millions of hardy Manchus, a soldierly race,¹ who, when armed, disciplined, and led, would be able to meet on equal terms any troops in the world (?). Criminals are still transported to Manchuria, which for years past has been depleted of its best blood. Emigration is not permitted north of San-sin.

The climate is fine, the soil is productive, cattle and horses thrive; there are immense forests of the finest woods. Iron abounds, and signs are given that large coal-beds exist, and the Amur valley is most highly auriferous,—so much so that under good regulation the Chinese Empire could easily draw a vast revenue from the gold-fields and washings. As from Russian Siberia it is supposed that at least £8,000,000 sterling are raised annually from gold mines, Chinese Manchuria, which is said to be much richer in the precious metal, should yield at least as much.

A military service for the Amur frontier should be made. On the Sungari and Usuri, steam gun-boats of light draft should be placed in adequate numbers, and military posts should be built, and connected by inner lines of road.

The defence of Manchuria is also essential to the defence of Korea, and, in fact, if Manchuria is well defended it will be almost impossible for Russia to attack Korea, as an invading force would have open flanks on the line of the Usuri.

Mr. Fulford's paper shows the weakness, as well as strength, of the Chinese Government, and the docility of the people, who are ruled in a perfunctory and intermittent sort of way, but who yet, when the state ignores them, form orderly communities amongst themselves, and thrive in spite of all disadvantages.

As the Korean question is now almost at its critical stage, it is probable that the Chinese Government will be forced by circumstances to give heed to the condition of Chinese Manchuria, and as population is going there from the now sterile districts of Shantung, there are all the elements ready for forming on the Amur and Usuri lines a strong defensive frontier, well supported by a populous, productive, and thriving province.—(*Chinese Times.*) (*See page 692.*)

The possession of Korea by Russia enables her to become the naval Pacific power in the Pacific Ocean, to overawe Manchuria and Chili.

¹ The Manchus are not martial; they are very much the reverse.—(*Younghusband.*)

Russia attributes the successful negotiation of the Kuldja treaty to her *readiness at sea*. (See page 679.)

The *Chinese Times* considers that Kashgaria, Zungaria, and Ili are *not* sources of strength to the Empire, *not* useful as defensive posts, *not* producers of revenue; beyond supporting distance, and without retreat; considering them as sources of weakness, it is argued that they should be abandoned.

The same writer considers the possession of Northern Mongolia insecure; that the disaffection of the northern Mongols has not yet reached an acute stage; and that Russia does not much desire its possession.

Important deputations from the tribal leaders of the northern Mongols visited Irkutsk to offer allegiance to Russia in 1867.¹ But the times were not ripe, and Russia knows that means exist when the necessity arises for quickly organizing the friendly Mongols to carry war to the Great Wall and Manchuria, thereby perplexing the Chinese Government in its present unmilitary condition.—(*Chinese Times*, 1887.) (See pages 314 et seq. 320, 470.)

The above reasoning cannot be acquiesced in. To hold Kashgaria is the lesser of two evils, with communications existing as at present; with improved communications the evil of holding it lessens and eventually disappears. China's loss would be Russia's gain of an industrious and rapidly multiplying Muhammadan population, of fine physique, unbigoted, and easily controlled, ready to be led and to overflow into the fertile wedge of Kansuh, and, joining with the disaffected tribes to both east and west, to form Russia's advance-guard, eager to press on to the Wei valley, making common cause with their Muhammadan brethren. The difficulties of access to the Wei valley from north, east, and south, and the immense importance of its strategic position, have been remarked upon. (See "*Si-nan-fu*" and page 508.)

An advance along this line simultaneously with one from the Amur into Manchuria, followed by the construction of military lines of railway from Turkistán towards the Wei valley, must give to Russia trans-mural China, inclusive of Tibet, and eventually Manchuria.

It has been elsewhere shadowed that Russia's aim is a gigantic one, suited to a nation of her youth, enterprise, and immense internal resources, and to be both commercial and political,—*i.e.*, that it is to become the great supplier of, and carrier to, China, and, *volens volens*, to force her to accept her as both, if not to conquer and reduce her to subjection absolutely. Considering the Empires as represented in these notes, there can be no question but that China's only safety lies in retaining her present boundaries and in taking the bold course of pushing her lines of railway to meet those of Russia, keeping to herself all the commercial and military advantages resulting from them, and, as they progress, *pari passu*, defending them both by gradually forming an efficient army and the construction of suitable *place d'armes* and inland arsenals.

That Britain will lose, both as supplier of, and carrier to, China, is more than probable; but the lesser evil for her would be that the

¹ It is said that one-half of the tribal chieftains are in favour of annexation to Russia.

Chinese Empire be kept intact, as her commercial loss is the same in either case, and it is of importance to India to have China as a neighbour in Tibet and Kashgaria, and not Russia.

It is of interest to us to know—

Short review of the military position in Manchuria, Mongolia, and the Sin-kiang province.

- (1) what chances the Chinese army of Manchuria has of successfully invading the Russian Primorskai or of withstanding a Russian invasion ;
- (2) what China would do in Mongolia to prevent Russia occupying it ;
- (3) whether China can hold the Sin-kiang province against Russia ; and
- (4) whether the Chinese forces could make a diversion by invading Russian Central Asia.

THE CHINESE MILITARY POSITION IN MANCHURIA.

To the east of the line Newchuang, Kirin, San-sin-chen, lies forest-clad mountains, and to its west a well-cultivated, fertile, alluvial track, producing heavy crops of millet, beans, wheat and poppy, watered by the Liau and the upper waters of the Sungari, and extending to the middle course of the Sungari and Petuna.

To the northward of the line Petuna, San-sin-cheng, as far as the Russian frontier, and eastward of that of San-sin-cheng, Ninguta to the Tiumen river, and extending to the Ussuri and Amur, are bare mountains skirted to the west by the road Petuna, Tsi-tsi-kar, Aigun, and penetrated centrally by the Sungari river, which is navigable to Petuna and Kirin by large junks.

By road and river (Ussuri) the Russian line of communications border it to the eastward.

The two main tributaries of the Sungari, the Nonni and Mutan-chang, are navigable by small junks to Tsi-tsi-kar and Minguta respectively.

The summer heats rise to 90°; the winters are severe but bracing, the thermometer sinking to—15° Fahr. in the south and—50° Fahr. in the north. Heavy rains fall from June to August, and render the unmetalled roads almost impassable.

Three cart-roads connect the Sungari district with the head of the gulf of Liautung.

GARRISONS.

Kirin, situated in a rich country, on the navigable Sungari river, a town of about 80,000 inhabitants, is the military centre of Manchuria. It is connected by unmetalled cart-roads with Mukden and the coast; *viâ* Petuna, Tsi-tsi-kar with Aigun, the frontier town on the Amur; with San-sin-chen, on the centre course of the Sungari; and *viâ* Ninguta, with Hun-chun on the Tiumen river and Russian frontier. It contains a fort, arsenal, and powder factory; it is the base of operations against the Amur and Primorsk provinces of Russia and the centre of resistance in case of invasion from the side of Russia. Frontier garrisons

are stationed at Tsi-tsi-kar, San-sin-cheng, Ninguta, and Hun-chun; smaller outlying garrisons need not be considered.

At Mukden are stationed the reserves to the above line of defence, circling round Kirin.

Between Mukden and Peking and Fort Arthur are garrisons for coast defence.

The garrisons are composed chiefly of local Manchu troops (a large proportion of militia), despised by the Chinese, badly organised, officered, trained, and disciplined. There are a few Chinese regiments of braves in garrison in the frontier towns and in Kirin.

They are armed with foreign breech-loading rifles, of many patterns; muzzle-loading Enfields and jingals.

The field artillery are armed with Krupp's guns.

The frontier garrison towns are situated in fertile districts, and the roads connecting them with the rear pass through cultivation; the country between them is for the most part waste.

The army of North Manchuria, 25,006 men, could, it is estimated by Lieut. Younghusband, be reinforced by 20,000 raw Chinese levies and 20,000 newly-raised Manchu levies in 40 to 50 days from the time of the former reaching the Yangtsi.

The chances of such an army taking the offensive at all is small; of their taking it with any chance of success next to nothing. The genius of the Chinese soldier lies in passive defence; his courage is not of the active kind.

Kirin to Tsi-tsi-har.—Good cart-road, 400 miles.

Distances. Tsi-tsi-har to Aigun.—Cart-road 250 miles.

Tsi-tsi-har to Hulan.—Good cart-road, over well-grassed steppe; 200 miles. (Hulan is the centre of a fertile district.

Hulan to San-sin.—Good cart-road. 200 miles.

San-sin to Ninguta.—Bad cart-road; hilly and boggy. 200 miles.

Ninguta to Hun-chun.—Bad cart-road; hilly and boggy. 150 miles.

The telegraph will soon connect Kirin with Aigun and all important towns of Manchuria.

Ninguta to Kirin.—Cart-road, bad order; hilly and boggy.

Hun-chun *via* Oh-mo so to Kirin.—Good mule-road, but passable to carts; 350 miles.

Coal is worked near Kirin. Muhammadan emigrants from Shantung are found in some numbers in all the large towns.

All roads unmetalled and impassable after heavy rain. Easy during winter, when the temperature in the south sinks to -15° and in the north to -48° ; the weather then is extremely healthy and bracing.

The Russian garrisons are distributed along the line from Possiet bay, by Vladivostok, the Ussuri river to Khabarovka, and the line of the Amur, &c., by Blagovieshtchensk to Chita and Kiakhta. (*See page 686 et seq.*)

Their line of communication is from Vladivostock by road to Kamen Ryboloff, part made, part over steppe; across the Khanka lake, over the ice in winter, in steamer at other times; similarly by the Sungatcha to the Ussuri; by the Ussuri to the Amur;—a defective line in every particular. A railway is proposed from Vladivostock

viâ Razdolnœ, Niko'skœ, Anuchino to Port Busse,—*i.e.*, the Ussuri railway; length 265 miles.

Irkutsk, the largest town in eastern Siberia, of 40,000 inhabitants, an important administrative and trading centre, is the base for Russian operations east of Lake Baikal and south towards Peking. (*See page 588.*)

From Lake Baikal to Streitinsk, the head of the Amur navigation is 640 miles, a 26 days' march; thence to Khabarovka is 8 days' navigation, and on to Kamen Ryboloff 5 more in the best season.

Under the most favourable circumstances at present existing, reinforcements would reach Kamen Ryboloff in 40 days and in driblets.

With the construction of the Siberian railway to Streitinsk, Russia's position in the Primorski becomes altogether changed. She has a large and increasing fleet of steamers on the Amur, and has under consideration the construction of river boats suited to navigate the Sungari, which carries a minimum depth of 3' to 4' up to Kirin. The strategic necessities connected with the safety and supply of the Russian re-entering frontier formed by the Amur and Ussuri necessitate that she should occupy the Sungari to Kirin, and the Tiumen to Hun-chun,¹ in order to do away with its inherent defects.² This line is also necessary to the defence of any southern port that Russia may acquire on the coast of Korea, and to give her that commanding position with reference to Peking necessary to coerce China to grant to her permission to run her rails into Peking and to the Yang-tse-kiang, in furtherance of her commercial aims,—*i.e.*, to become her great supplier and carrier. These two points, then, may be assumed to be the first Russian objectives in Manchuria, combined with a naval demonstration against Shan-hai-kuan, to prevent reinforcements being sent from China into Manchuria. Kirin is commanded within 1,000 yards by hills, the occupation of which compels its surrender.

The forts and camps defending the frontier Chinese stations are, the former, batteries of faulty design, to hold 3 or 4 large Krupp cannon; and the latter, of the ordinary Chinese type; neither effective against a trained foe.

The nature of the hilly country encircling the Chinese frontier garrisons at Petuna, San-sin-cheng, Ninguta, and Hun-chun, eminently favour the initiative up the Sungari to San-sin-cheng, and thence by road and river on Kirin and Petuna, and by road on Ninguta, the occupation of Hun-chun being left to the Pacific fleet. The Sungari, as a line of communication, is protected by a hilly and badly supplied country, traversed by pack-animal tracks only; an advance from San-sin-cheng, combined with an attack on Hun-chun, would compel the retreat of all the frontier garrisons on Kirin. A Russian force would desire nothing more than to be allowed the opportunity of assaulting Kirin, into which, without doubt, the whole Chinese force would retire

¹ The occupation of Hun-chun necessitates that of Ninguta, the centre of a fertile district whence its garrison draws its supplies.

² In 1880, when war with China was imminent, orders were said to have been issued to occupy San-sin and Ninguta.

agreeably to immemorial custom. Russian steam launches have ascended the Sungari to Hulan. Thirty-ton junks trade between San-sin and Tsi-tsi-har and Kirin; six-ton junks trade between San-sin and Ninguta.

Russia is adding to her army in the Pacific provinces, and planting Cossack colonies yearly in the Ussuri region. In a few years she will be able to spare 10,000 men for the invasion of Manchuria, assisted by a superior fleet, and this without taking into consideration the progress eastwards that will in the meantime be made by the Siberian railway, and its great value in lessening the difficulty of reinforcing the Primorski.

Granted that China likewise constructs her main strategic railways from Peking to Kirin and Urga, she dare not trust a large army at the latter place, so far from her own, so close to the Russian base, and connected with Peking by a line of communication open to destruction by bands of raiding Cossacks; and the former line must keep within operating distance of the sea-coast under command of Russia's superior fleet and equally capable of being interrupted. Port Arthur is open all the year round and might fall if resolutely attacked and isolated. (*See pages 45 et seq.*)

With a fleet capable of keeping that of Russia at a distance from the coast railway, Shan-hai-kwan to Kirin, and with branch military railways to Aigun, San-sin-cheng, and Hun-chun, the tables might be said to be reversed, and China in a position to drive Russia from the Amur, provided her army be fairly well trained, disciplined, and armed.

The points open to Chinese attack may be restricted to Nikolsk; for Blagovieshchtsensk is 420 miles from Tsi-tsi-har, with a sparsely populated country between, and to reach Khabarovska the Sungari would have to be descended in junks in the face of a superior force of Russian river boats.

The roads Nikolsk, Ninguta, Kirin, Ninguta, and Hunchun are bad and hilly. This points to the necessity of Russia basing her army about Vladivostock on the sea, and of her maintaining a naval superiority over China in the Pacific. Indeed, were China superior at sea and had she but a decent army, Russia would probably find it to her advantage to withdraw to the Amur and advance upon Peking *via* Urga, laying a ¹line of railway or tramway as she advances, whilst at the same time her Turkistán army occupied the Sin-kiang province, raising the Mongols and the Dungans of Kansuh, into which province an advance might safely be made as far as the Yellow River, its left flank being completely protected by the advance, or even demonstration, against Peking. The difficulty of fuel on the Urga-Peking line may be an insurmountable one.

From the foregoing considerations it will be seen that the present Chinese position in Manchuria, with a fleet inferior to that of Russia, an ill-disciplined and badly officered army, and with road communications only with China, is one inferior to that of Russia, notwithstanding the disadvantages of the latter's communications skirt-

¹ Russia will the more probably face the difficulties and expense of this line inasmuch as it is also considered to be a commercial necessity. (*See Preface, page xviii.*)

ing both sides of her re-entering frontier and distance from her base, she having the advantage of a superior sea and river fleet, a superior trained army (relative value probably not under 1 to 4), and a safe line of river communication leading to Kirin, the centre of gravity of the kingdom of Manchuria, and Ninguta, its advanced post to the north-east, being 180 to 200 miles by road from both Hun-chung and Nikolsk, and 170 miles by river, navigable for small junks to San-sin-chen.

If operations took place while the harbours and rivers are blocked by ice the Russian advantages are lessened.

For China's military position in the Sin-kiang province, *see page 15 et seq.*; and in Mongolia, *see page 625 et seq. and cross-references there made.* Garrisons in Mongolia, not worth considering.

Table of COLONEL PREJVALSKI'S Observations, worked out by Fritsche, Director of the Russian Observatory at Peking.

	North Latitude.	Longitude east of Greenwich.	Date.	Magnetic declination.	Horizontal intensity; absolute measurement.	Height above sea in feet.
Peking	39° 56' 8"	116° 28' 6"	12th Mar. 1871	...	...	121
Ku-peh-kau	40° 41' 7"	117° 8' 6"	18th Mar. 1871	...	...	692
Fu-ning-hien	41° 22' 0"	117° 5' 3"	...	...	...	2,059
24 miles 1,480 yards S.E. of Lama-miau on the Luan-ho	...	...	...	...	...	3,800
Town of Lama-miau (Dolon-nor)	42° 16' 6"	116° 19' 0"	28th Mar. 1871	...	...	3,985
Dalai-nor lake	43° 18' 0"	116° 58' 0"	6th April 1871	...	...	4,168
Road on the plateau from Lama-miau to Kalgan	...	...	...	...	...	4,592
Pass 12 miles 740 yards N.N.W. of Kalgan . . . . .	...	...	...	...	...	5,356
Kalgan	40° 50' 7"	114° 53' 1"	...	...	...	2,709
Suma-hada range, plain between the mountains	41° 27' 7"	112° 0' 0"	6th June 1871	+1° 50' 5"	...	5,562
Munni-ula range, plain between the mountains	41° 20' 0"	110° 0' 0"	28th April 1872	...	27,343	5,405
Tsademing-nor lake in Ordos, right bank of Hoang-ho	40° 20' 7"	108° 45' 0"	6th Aug. 1871	+1° 11' 0"	...	3,198
Shuten temple	41° 12' 5"	106° 30' 0"	24th Nov. 1871	+1° 20' 0"	...	3,280
Bain-tuhum temple, 7 miles 796 yards S. of the northern boundary of Ala-shan	40° 43' 9"	106° 0' 0"	7th Aug. 1873	...	...	4,352
South-western boundary of Ala-shan, 10 miles 980 yards E.S.E. of the town of Din-yuan-ing	38° 49' 4"	105° 50' 0"	18th July 1873	-1° 6' 6"	29,267	...
Din-yuan-ing	39° 5' 0"	105° 46' 0"	12th June 1872	...	...	4,821
Tsagan-nor lake	39° 45' 0"	105° 55' 0"	20th Sept. 1871	...	...	3,421
Summit of Bayan Tsumbur in Southern Ala-shan . . . . .	...	...	...	...	...	10,646
Town of Ta-ying	37° 40' 0"	103° 45' 0"	...	...	...	5,913
Town of Ta-yi-gu	37° 30' 0"	103° 48' 0"	16th June 1872	...	...	8,606
Temple of Chobsen	37° 3' 0"	102° 14' 0"	20th June 1872	...	...	8,921
Summit of Mount Sodi-soruksum, near Chobsen . . . . .	...	...	15th Sept. 1872	-0° 50' 0"	...	13,579
Lake Demchuk at the foot of Mount Gadjur, near Chobsen . . . . .	...	...	21st July. 1872	...	...	...
24 miles 1,480 yards S.E. of Chobsen	36° 35' 0"	102° 35' 0"	10th Aug. 1872	...	...	13,074
Si-ning-fu	36° 39' 0"	101° 48' 0"	29th Sept. 1872	...	30,392	...
Temple of Cherinton in Tatung valley	37° 15' 0"	102° 50' 0"	...	...	...	7,235
Lake Koko-nor, south-western shore, near the mouth of the Fouhain-gol river	37° 1' 2"	99° 18' 0"	26th Aug. 1872	...	...	10,405
Pass over the southern Koko-nor range . . . . .	...	...	9th April 1873	-2° 26' 9"	30,363	13,517
	...	...	14th Mar. 1873	...	...	...

Table of COLONEL PREJVALSKI'S Observations, worked out by Fritsche, Director of the Russian Observatory at Peking—concluded.

	North Latitude.	Longitude east of Greenwich.	Date.	Magnetic declination.	Horizontal intensity; absolute measurement.	Height above sea in feet.
Baian-gol river in Tsaidam	36° 16' 1"	96° 00' 0"	28th Nov. 1872	...	...	8,839
Dsung-zasak, northern foot of Burkhan Buddha	...	...	3rd Dec. 1872	...	30,651	8,839
Pass over the Burkhuu Buddha	...	...	6th Dec. 1872	...	...	15,322
Highest point of this pass	...	...	8th Dec. 1872	...	...	16,319
Nomokhun-gol river	...	...	14th Feb. 1873	...	...	11,300
Pass over the Shuga range	...	...	2nd Jan. 1873	...	...	15,476
Lake Bouha-nor, on plateau of North Tibet, south of Shuga range	...	...	12th Jan. 1873	...	...	14,373
Northern foot of Bain-kara-ula range.	...	...	23rd Jan. 1873	...	...	14,931
Muru-ussu river (Yang-tse-kiang) near the mouth of its tributary, the Napchitai-ulan-muren	34° 43' 1"	94° 48' 0"	21st Aug. 1873	-3° 58' 9"	31,509	13,146
Bain-bulik spring, 2½ miles from Hurku range	42° 35' 9"	106° 0' 0"	21st Aug. 1873	...	...	4,774
Bortson spring at the southern foot of Hurku range	...	...	14th Aug. 1873	...	...	4,232
The Galpin Gobi	...	...	28th Aug. 1873	...	...	3,172
Trade route between Kuku-khoto and Uliassutai	...	...	6th Sept. 1873	...	...	5,400
Uliassutai post road	44° 23' 0"	106° 0' 0"	1st Sept. 1873	-0° 42' 1"	...	4,687
Guli spring	44° 50' 0"	106° 0' 0"	3rd Sept. 1873	...	...	...
Tushetu-koung Yurta	46° 51' 5"	106° 0' 0"	13th Sept. 1873	...	25,461	...
Khari-nor lake	...	...	...	...	...	4,485

According to Fritsche's Observations.

	N. LAT.	LONG. E. OF GREENWICH.	HEIGHT.
Peking	39° 9'	116° 5'	121 feet.
Kalgan	40° 8'	114° 9'	2,706 "

The geographical positions assigned by Colonel Bell to places along his route, the Great Central Asian route, can be ascertained by reference to the map which accompanies this report. They are fixed by astronomical observations for latitude and longitude by chronometer watches and dead reckoning combined. Heights can be correctly worked out from the data given in the detailed road reports. Those given are uncorrected.—*M. S. B.*

PART II.



DETAILS OF ROUTES.

HAMI TO LEH (LADAKH).

PART II. DETAILS OF ROUTES.

HAMI TO LEH (LADAKH).

ROUTE No. 6.

JUNE

Hami to Umiotza.

1887.

No. of Stage.	Time.	Names of Town, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	4th June. A.M. 10-0				Bar. 27'26". Temp. 80° (in-doors). Elev. 2,650'.
	P.M. 4-0				Bar. 27'1." Large Bar. 27'32". Temp. 82°. A dull, hot, sultry day.
	5th. A.M. 10-55	HAMI . . .			The bazár here is more oriental in look than others hitherto met with, being partly shaded by horizontal awnings of boughs.
	11-8				
					Leave old city after traversing its narrow streets lined with shops; it is surrounded by a low mud wall, and low mud walls divide it into quarters, each entered by gates.
	5-15				Small stream; traverse the hollow about the town through wheat-fields and well-irrigated gardens.
	5-25				Cross a barren, sandy waste; 295° is the boundary line of the hills as seen; a line 88° bounds the hills on their eastern side. Good position for bombarding the town; its site is indefensible; a broad and shallow, cultivated ravine gives access to the old city walls, the houses of which extend up to the walls of new city.
	5-35	A cloudy day. Bar. 27'1". Temp. 73°. Elev. 2,750'.			An insulting set of Chinamen live in Khami; the Chinese are cowards singly, but gain Dutch courage in crowds, <i>i.e.</i> , in cities and large towns, and concourses. They then, insult foreigners, but in twos
					and threes never dare to do so.
	5-53				Slow pace; road, a track as before, over a sandy gravel; all barren.
	6-0				Small stream.
	6-15				Thirty camels grazing on a low thorn, of which there is a sparse growth; saw no camels at Hami; they must be collected from the grazing grounds; donkeys of an average size and strength alone numerous.
					The side light causes the Tien-shan range to appear to be clothed with snow to its base.

ROUTE No. 6—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 7-5	Ruined village. Dry well.			
	9-45	Bar. 26'5". Temp. 100° in holsters.			Ruins. Hard track, over the barren, gravelly glacis of the Tien-shan range. Temp. of air 88°.
	11-30 P.M.	Bar. 26'1". Temp. 95°.			
	12-10	Ruins and inn.			
	1-45	Bar. 25'35". Temp. 92°.			The spurs of the range reach out to a line bearing 280°. A very gradual ascent; hard track.
	2-0	Pond at times fed by drainage from hills.			
I	4-35	NAN-SHAN-KOW (Custom-house.) Bar. 24'3". Temp. 82°. Elev. 5,700'.	87	87	1 1/2 hours. Water from a clear mountain stream; a few inns at the entrance of the gorge. The stream soon loses itself in the desert.
I	6th. A.M. 4-0	Bar. 24'35". Temp. 70°.	...	87	69th day. Windy; clouds, and threatening rain.
	4-20	Wind up stony incline; it commences to rain.			
	5-12	Difficult road for carts; takes one line of traffic; a plentiful stream flows down the ravine which is 150 yards wide bordered by high cliffs, of indurated, ruddy brown shales; its exit is very defensible; hills very irregular in conformation.			
	5-25	Bar. 23'8". Temp. 62°.			
	6-30	Bar. 23'3".			Shelter-house.
	7-50	Fair grazing now in the pass; dwarf pines add to the beauty of the scenery, which is fine here; hill-sides steep.			
		Bar. 22'7". Temp. 52°.			Snow lies high up on the hill-sides in small patches. The cuckoo heard.
	8-35	Bar. 22'3".			Capital grazing up to the hill tops; a blue, shaly soil is held up, at steep slopes, between the perpendicular rock. Ravine 200 yards wide.
	10-0	Clay soil; trees have been cleared off the hill-side; (left) border hills now rounded and grassy; snow lies by the road-side; a broad and muddy track; heavy rain now falls.			
	10-25	Bar. 21'6". Temp. 47°; top of pass. Elev. 8,950'.			Temple. The descent commences. Halt 15 minutes. We take out leaders, and by steep zig-zags descend the hill-side.
	11-45	Custom-house			Seven hundred yards from 10-25; descend chiefly amongst rounded clay hills, covered with grass, and well wooded with small pines, &c. Cross several hill streams.

ROUTE No. 6—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	P.M. 1-0	Bar. 23'0" . . .			The chief descent is over. The road now skirts the north slope of the hills, which are well clad with low pines branching from the ground; few are over 20 feet high, or have stems thicker than 9 inches; 2 miles off to the right lies a low range of hills, and between a fine pasture valley; rich grasses. Wet through and chilled to the bone. Was told at Hami that rain never fell here; all is precipitated on these hills, of which I was not warned.
2	1-40	SHUNG-LIN-TAN . Bar. 23'35". Large Bar. 23'55". Temp. 53°. Elev. 6,750'.	54	141	Several inns; called 70 li. The Tien-shan on this side are rounded in outline and well covered with grass, of excellent quality.
<p>Ponies said to be plentiful here, and to cost 8 to 12 taels each; 2,000 said to be kept for military and breeding purposes; cows cost from 10 to 18 taels; a sheep 1 tael; larger number at less price per head. To reach Peking it is necessary to go either by Palikul (Barkul) or Hami; the former road is said to lead through Uliassutai; there is said to be no other outlet from this place. Snow lies here deep in winter (3 feet), but does not materially stop traffic. It rains considerably in July, and the hill streams are then much swollen. The streams, on south side of the range, soon lose themselves; snow there and at Hami is very rare. Opium costs $\frac{1}{2}$ silver tael, per tael weight; the inn-keeper smokes 200 cash worth in a day; has an ash-like countenance, and knows nothing about the district.</p>					
2	7th. A.M. 5-20	Cloudy. It rained all night. Bar. 23'45". Temp. 50°.			Start. The Mongols bring their ponies here to fatten; they could scarcely bring them to finer pastures.
	5-40				Fifty camels grazing on the grass; 3 mud enclosures in ruins; the ground slopes down to the hills, 2 to 3 miles distant to the right, where there must be a river of size to take the waters of the numerous hill streams we cross.
	5-50	Bar. 23'52" . . .			Camels are all shedding their hair; they seem to shed skin with it. Ruined farmsteads occur here and there. This might be a good wheat-producing country; soil, gravelly clay; road, a hard track.
	7-45				Two miles distant are hills to left, and 4 miles to right.
	8-20				Ruined village. Still traversing the grassy basin; there are long skirts to the hills to right.
	8-40	Bar. 23'7". Temp. 53°.			
	8-54				One hundred and fifty camels grazing; their hair is collected and spun into balls by the attendants. Ruined farmsteads still occur. It was too cloudy to see the east end of the trough we traverse, but I was told no road went east; good hard track all along; a natural highway.
	9-50				One hundred camels, and from 200 to 300 sheep; many ruined villages; grass coarser and poorer than where we entered the basin.
	10-0	Bar. 24'05". Temp. 56°.			Ruins.
	11-0	KUI-SU . . .	55	196	Good pace; 10 li per hour most of the time; called 80 li.

ROUTE No. 6—*continued.*

No. of Station.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	P.M. 1-10	Bar. 24'25". Large Bar. 24'42".			Temp. 63°. Elev. 5,750'. A few inns (2). Re-start. Some fine bullocks here; there is a little snow on the highest tops of the range to right, from 12 to 15 miles off, showing height to be over 9,000 feet. This grass-land would do better as irrigated grain-land; soil, a sandy and gravelly clay; good track.
	1-40	Mountains to the left here, steep, angular, and ribbed, are 3 miles off; snow lies on their tops and low down in the ravines; pines clothe many of their steep slopes; they are more or less grassy to near the summit.			
	2-50	A few huts also a few fields of cultivated wheat, 6 inches high. Bar. 24'4".			Temp. 67°.
	3-5	Ruins of a large village, over 1 mile long.			
	3-50	SHI-INZA . . .			Ruined village. Stream (40 li to Pa-li-kul).
	4-42	Hills to the left about 12,000 feet high; to right, they lower considerably.			
	4-55	A little poor agriculture carried on along the road; wheat 3 inches high; it is said the ground has only been clear of snow one month.			
		Bar. 24'5". Temp. 80°.			Clouds have collected round the hill tops, and the sun shines hotly.
	5-15	Cultivation becomes more general; much water on the road due to overflow of irrigation cuts.			
	6-55	The Manchu city extends hence up to 7-10, <i>i.e.</i> , has a length of 1,400 yards; it is 700 yards wide, has central gates and low mud wall, 12 to 15 feet high.			
	7-10	Enter the Chinese city, which lies 500 yards beyond, and has a side of about 800 yards.			
3	7-15	BARKUL . . .	60	256	Inn. The lake lay under the setting sun.
	7-30	Six hours; pace fully 10 li the hour.			
		Bar. 24'7". Temp. 63°. Elev. 5,300'.			The Manchu city lies on ground sloping to the west, and the Chinese city on still lower ground, about 1 mile distant from the foot of the Tien-shan;
		streets very muddy; houses have flat roofs; wood from the hills is freely used in shop verandahs, &c. The Chinese have here 1,100 families and 30 shops; and in all 60 or 70 Mussulmans or Tungans. There seems to be plenty of children in the place, and the women show themselves more than is usual. No Chentus here.			
		<i>Garrison</i> —1,000 Manchu; 1,000 Chebing; paper garrison. The soldiers are under a Montong; the civilians under a Chin-shi-ting. Camel-roads lead hence to Kobdo and Uliassutai, taking 18 and 22 days; to Kwei-wha-cheng takes 54 to 56 days or 58 to 60 days; calculate the stages by allowing 18 miles a day; the longer time is taken by the official route, where inns or Mongol rest-camps are established; the shorter are the caravan tracks; along them are no established settlements, although Mongol tents are frequently met with; officials get to Kwei-wha-cheng in under one month by relays; the Mongols at the station receive an allowance to supply food and transport to them (<i>see Part I</i>); water and grass are alone to be got at the stations; carts can go to Uliassutai; from Hami a route goes direct to Kwei-wha-cheng.			

ROUTE NO. 6—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
					A batch of 50 ponies for sale; none very good; rather weedy. Rain is said to fall here frequently. The cultivation about Palikul or Pa-li-kun is small, but capable of very large increase, as is shown by the size of the ruined villages and number of ruined hamlets, none of which have been as yet reoccupied.
3	8th. A.M. 6-55	BARKUL . . .	...	256	Country well irrigated by small streams flowing from left to right. Hard broad track through cultivation. The cartmen filled up their straw bags; at the small stations <i>en route</i> they charge enormously for food of all sorts; low hills from 40 to 50 miles to right.
	8-2				Very stiff from the thorough wetting of Monday. Eastern extremity of lake bears 340°; 15 to 20 miles off. Ruins of farmsteads and villages numerous.
	8-13				Ruins.
	8-47				End of lake, 10 to 15 miles to our right, very narrow; west end of lake bears 260°. (<i>See sketch No. 42.</i>)
		Bar. 24.7".	Temp. 65°.	Elev. 5,300'.	Hazy, but at times the sun shines out hotly. Lake 3 miles to right.
	9-10				Lake 1 mile off. Road, a broad, gently, undulating track; clay soil; 2 farmsteads with quantities of straw stacked. No hay is made in this country; poor grazing here. A line of pillars marks the road; a road keeps to the other side of the outlier bordering the lake; we skirt lake, keeping one mile from it; ground swampy in parts; a poor tufty grass alone grows; Brahmini ducks seen; mosquitoes troublesome.
		Bar. 24.675".	Temp. 78°.		Have ascended out of the lake depression; 15° is direction of a line down lake.
	11-55				By hard gravelly track we skirt the rocky, barren, and low outliers of the main range, 1 mile off to left; still in the same trough, entered on the 6th hills to right, 20 miles off, low; the lake lies in the basin.
					Cattle eat the coarse tufts of grass which here cover the plain.
4	A.M. 1-15	GU-KEI . . .	50	306	Station, with 2 or 3 inns; 6½ hours; called 70 li.
		Bar. 24.55".	Temp. 78°.	Elev. 5,400'.	The innkeeper smokes so much opium that he knows nothing about the country; is rude to boot; gets angry at being questioned, whereupon I admonish him, and Efu sets upon him in good style, and much noise and confusion ensue, until I turn peacemaker. Good grazing along the small stream at entrance of station. About 50 camels, with young, grazing there.
4	9th. A.M. 1-30	GU-KEI . . .	...	306	Start. Raining slightly; traverse the basin of yesterday, skirting the outliers of the Tien-shan range here 8 to 10 miles distant; low hills to right; poor grazing ground between; no farmsteads; no cultivation.

ROUTE NO. 6—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	A. M.				
	5-15	Bar. 24'1". Temp. 53°.			
	5-55	Ruined village.			
	8-0	Enter low gravelly hillocks, and wind through them.			
	8-35	LA-PA-CHUAN . . .	63	369	Station; 1 inn and 1 well; 7 hours, called 90 li. A heavy
		Bar. 23'4". Temp. 48°.			downpour of rain and cold driving wind. This is our 10th or 11th infliction.
		Chi-ko-tai, &c.,—13 stages to Turfán; and none to go hence. From Palikul a road goes over the hill to Turfán in 6 days; it is a good cart-road; it must be the road noted yesterday at 9 A. M. Yan-dan is 4 days from Palikul. It is on the south side of the range, to west of Hami. A pack-road goes from here to Turfán in 6 days, <i>i.e.</i> , Seugi 90 li; Labaching 60 li; and thence <i>via</i> Wutungwuza, Schi-in-shi, Pichan, &c.: 2 days on our road west of this is another cart-road over the hills.			
		Road to-day a hard track; it requires no keeping up; it is a natural road; there is no traffic. The same remark applies to the pass road, with the exception of the zig-zags on this side, which require repair; a rough rail of pines borders it.			
	P. M.				
	12-40	LA-PA-CHUAN . . .	...	369	Re-start. Traverse low hills of rock shale at steep angles, and much splintered.
	1-8	Road undulates considerably, but no stiff gradients. The hills afford poor sheep-grazing only.			
	2-8	Bar. 23'2". Temp. 52°. Elev. 6,950'.			
	2-20	The road, winding, finds an easy passage through the low hills, which extend for a long distance to right.			
	2-48	Bar. 23'03" . . .			The main hills to the right, at a distance of 10 to 15 miles, rise to a considerable height.
		The Chinese donkeys work exceedingly well, and go a pace of 3 miles an hour.			
	4 10	Bar. 22'95".			
	4-35	Choppy hills of rock and gravel as far as the eye can see to the right.			
	4-50	Road very undulating and winding, amidst low gravelly and shaly hills; plenty of sheep-grazing, also good grazing for cattle here about.			
	5-17	Highest point reached 22'9". Elev. 7,300'.			This grazing country of hill and plain and lake would seem to extend with barren stretches to Chuguchak, Kobdo, Uliassutai, and Urga into Manchuria, or may be to the Russian border. No nomads
		about, so grazing is here probably not so good for cattle as elsewhere. The road through the places named is not an unfrequented one and troops are said to use it. Hills to the left high, jagged, and rocky. Grass on some slopes; no snow; they are the main range, here comparatively low. On the whole the stage is a heavy one; so undulating.			

ROUTE No. 6—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
5	P.M. 5-40	URTU . . .	42	411	Station; inn; small stream; fodder for cattle and ponies; 5 hours; rain at intervals during the day, and still clouds enough to rain for a fortnight. None of it passes beyond the hills; weather cold and raw. More rain falls here than at Umiotza, and at Ili about as much as at Umiotza.
5	10th.	Bar. 23'15". Large Bar. 23'2". Temp. 50°. Elev. 7,050'.	...	411	
	A.M. 4-0	UR-TU . . . Bar. 23'15". Temp. 48°.			
	4-45	Start. Clouds more or less banked up.			
	4-45	Descending over a wide flat between low hills; hard gravelly track.			
	5-55	Hills to right are a mass of gravelly and clayey cones; they rise to some height and are covered sparsely with grass. Fair grazing here; could stack plenty of hay generally along this line; similar hills to left, 2 miles off. (<i>See sketch No. 42.</i>)			
6-43		Bar. 23'75". Temp. 65°. A sparkling sharp air.			
		Traverse low gravelly hills, descending gradually and passing down valleys from 100 to 400 yards wide.			
	9-10	Bar. 24'25". Temp. 60° (in air 55°).			
9-8	A cart and mule track joins in from left $\frac{3}{4}$ rear, and seems to penetrate the hills; hills here rocky, and rising 1,000 feet and over on either side. Water and streams not plentiful; latter almost wanting altogether.				
10-3	CHI-CHI-TAI . . .	56	467	Station; inn; and a ruined mud enclosure now used as a farmhouse. The li this side of Hami=0.7 li of 3 to 1 mile; a well.	
liarity in the formation of the Tien-shan and its spurs; their valleys are filled in with gravel or soil affording easy roads. (<i>See page 187.</i>)		Bar. 24'75". Large Bar. 24'85". Temp. 62°. Elev. 5,250'.			There would seem to be a lateral valley on the other side of the hills, along which the road Da-shi-tow, Pichan, and Palikul, Pichan runs, similar to the one we traverse amongst the low hills here forming the main range. See remarks in Part I upon this peculiarity in the formation of the Tien-shan and its spurs; their valleys are filled in with gravel or soil affording easy roads. (<i>See page 187.</i>)
	P.M. 12-55	Re-start. Still descend down same valley at same gentle gradient; side hills rocky.			
1-25	A ruined mud enclosure.				
1-35	A patch of moist clay and good grazing; 50 cameis.				
1-46	Ascend gently and wind through a narrow ravine, 50 feet wide; good grazing in patches.				

ROUTE NO. 6—*continued.*

No of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	P.M. 1-58	Cross a kotal; low (40 feet), and through a cutting 10 feet wide.			
		Bar. 24'63". Temp. 75°. Elev. 5,360'.	Descend steeply, winding about a general line 240°, down a rocky and a narrow ravine; the first short steep descent from $\frac{1}{8}$ to $\frac{1}{10}$ soon becomes gradual and gentle.		
	2-32	A patch of grass; 15 camels grazing; a ruined mud enclosure; soil damp and covered with a thick efflorescence.			
	2-40	Small stream (our way).			
	2-48	We turn out of the valley, which continues to run south for some miles, and is swampy. The stream has its exit probably in the plains to the south if not locally absorbed.			
		Bar. 25-1" . . .	Gently ascend.		
	3-2	Hard gravelly track through a narrow ravine.			
	4-22	Looking back to the rear the appearance is a mountainous one; such views are generally deceptive and give little or no idea of the true topography of a hilly region; prevailing colour brown; some reds.			
	4-28	Ruined hut; good grazing.			
	4-46	Reach a small upland plateau, and descend off it; poor grazing.			
		Bar. 24'5". Temp. 75°. Elev. 5,500'.			
	5-15	Over a wide valley bordered by low hills.			
	6-0	Station of a few soldiers; 45 li, called 60 li.			
	6-18	Bar. 24'6".			
	6-45	This is the highest flat-topped part of range, and half a mile to left a view is obtained over its falling intersected south; easy passages look to be in plenty; barren; the snows bear a little to S. of E.			
	7-24	Bar. 24'53". Large Bar. 24'65". Temp. 60°.			
	7-55	Cart-road to Turfán and Hami goes off in direction of 100°.			
	8-15	SPI-KHO . . .	66	533	Ruined and disused station; 7½ hours, called 90 li.
6		Bar. 24'7". Elev. 5,260'.			
	11th. A.M.				
6	3-50	SPI-KHO . . .	...	533	Start; by the road carts reach Hami in 7 days and Turfán in 5 days; indifferent water from a spring; a little good grazing; a few poles with some red top-knots show there are some soldiers here. Leave the wide valley by a narrow gorge and traverse grassy flat-bottomed ravines from 100 to 200 yards wide, amidst low hills.

ROUTE No. 6—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	A. M.				
	4-26	Clay soil; rocks very much splintered; small stream flowing left to right; ruined hamlet.			
	4-43	Bar. 24'8". Temp. 44°.	Sharp air and clear sky. Saw 2 ducks (call, that of Brahmini) also 2 hill goats.		
	5-0	The water-parting hills lie 2 miles to left; they are mostly rounded in outline and composed of loose shale and clay, covered with heather, &c.; others are of rocky shale; red and blue; thrown up at steep angles, and weather-worn into rounded shapes. (<i>See sketch No. 43.</i>) Many larks; in the valleys are grass and scrub; pasture often rich and enough for many cattle.			
	5-37	Down a narrow ravine (1-line traffic).			
	5-45	Ruined hamlet; small spring flows left to right. This road passes over much side-lying ground; it is in no sense a made road but a natural one; water-parting close to the left; road very undulating.			
	6-27	Ruined enclosure.			
	7-0	DA-SHI-TO . . .	Station; grazing; small stream (our way). Halt 30 minutes.		
	7-30	Bar. 25'25". Temp. 58°. Elev. 4,700'.			
	8-22	A little snow lies on the highest tops of the distant ridge south of 250°. The road traverses flat valleys, up to 1,000 yards wide, affording fair grazing, and bordered by low hills of rock and shale; clay in the valleys; felspar occurs.			
	9-20	Enter a wide grassy plain, from 2 to 3 miles wide, and gradually widening; low hills to the right.			
	10-25	Cross a wide depression, 20 feet or so deep, and rise.			
	10-45	The main mass of hills are 3 to 4 miles to the left. Patches of snow lie on the summits (practically bare) between 225° and 245° only; they are brown and jagged; no trees; clay soil; soft and spongy here, and generally so on the plateaux in the hills passed over or rather through; tufts of grass, of aromatic pasture, and of weeds cover the plain.			
	11-0	The rising plain hides the view to right, its crest not being seen over.			
		Bar. 25'2". Temp. 67°. Elev. 4,730'. High wind.			
	11-11	A coralline weed here covers the plain; low hills still seen to rise out of it, 2 miles distant to the right, and again hills beyond them; hills to left are but little higher than those we passed through.			
	P. M.				
	12-50	Ruined hamlet.			
	1-40	Ruined enclosure.			

The hills traversed have ceased to the right, and a distant range appears over the plain, through the haze, looking from 30 to 40 miles off; none occur on this side of a line bearing 10°. Between lines bearing 250° and 345° are no hills.

ROUTE No. 6—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 3-0	Ruined enclosure.			
	3-30	Ruined hut.			
	4-30	Winding through depressions.			
7	5-5	SANG-KONG-CHIEN .	115	648	A large station, consisting of 1 large and 1 or more small inns;
13½ hours. The tower, which here is from 400 to 500 yards to right of road, is a good landmark; called 150 li, or 120 from Da-shi-to.					
		Bar. 25'1". Large Bar. 25'38". Temp. 75°. Elev. 4,800'.			A cart-road goes, <i>vid</i> Chi-ko-tai, 5 days, to Pichan 7 days and Turfán 7 days. None but Chinese opium-smokers in these stations; they do not even know the Turk names for the stages. Well water. The Chentus do not frequent the Chinese inns, but have straw stores of their own.
7	12th. A.M. 3-30	SANG-KONG-CHIEN . (10th cart-stage.)	...	648	Track, a good natural one, over the steppe. The 2nd range, in a direction 230°, is well covered with snow.
	3-40	Many dips cross our line (50 feet deep and 300 to 400 yards wide); 345° marks the limit of hills within 30 miles to right. Hills 6 to 8 miles to left. Pasture only in the bottoms of the depressions; weeds elsewhere.			
	4-16	Bar. 25'06". Temp. 50°			What a benefactor would he be who removed a few stones from Chinese road!—all remain as nature placed them.
	4-42	Thick snows now appear on the distant range, on line 255° and ahead of it. Ruined farmstead. No traffic to this. Now meet a few carts (6 or 7).			
	5-30	Better grazing.			
	6-0	Ruined farmstead.			
	7-8	Bar. 25'32". Temp. 62°			A low range of hills, 30 to 50 miles, to right.
	7-16	The sides of these depressions have very uniform slopes.			
	7-40	E-WAN-CHU . . .			Ruined village; soil, clay; broad track; small stream flowing left to right.
	8-45	Ruined hamlet; small stream; still 8 miles from the main range; better pasture.			
	10-0	A hamlet 1 mile to right; the hill, which has served as good land and survey mark for many miles, half mile to left.			
8	10-45	MU-LAI-HO . . .	69	717	7½ hours. Ruined village. In part reoccupied. Two or three inns; many sheep.

ROUTE NO. 6—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	

The barren outer range of hills ceases abreast of the village, and to the westward the range is again snow-clad and fronted by rounded hills, covered with grass. Apricots ripe, small, and watery. A cloudy, cool day; 10 Chentu and 130 Chinese families here; the former are stout-looking men. A bridle-path leads to Turfán in 3 days.

8	13th. A.M. 2-50	Bar. 25'62". Temp. 70°. Elev. 4,300'.			
		MU-LAI-HO . . .	...	717	By bridge cross the Mulai Khor diversion through village, and

beyond the village the stream itself flowing in a bouldery bed, 400 to 600 yards wide; the stream 40 feet wide, 1 foot deep.

	3-20	Over a down-like pasture country; road undulates; clay soil.
	3-50	Down a valley, bordered by grassy slopes; road from 20 to 30 feet wide, over clay; in fair order.
		Bar. 25'75". Temp. 52°. The road becomes a 1-line track, and in cutting up to 10 feet deep. The Tien-shan, 30 miles to left, is fairly covered with snow to some distance down from summit. Road soon widens.

	4-42	Ruins of detached huts.
	5-0	Stones impede carts. The valley, descended, has a width of 10 feet to 100 yards. One would like to see cows amidst the rich pasture.
	5-25	Bar. 26'1". . . Fine snow-peaks, bearing 252° (Bogdo-ula ♀). (<i>See sketch No. 44.</i>)
	5-40	Ruins of an extensive village. Ploughing up the hill-side by oxen (2); a rich clay; hills fronting the snows, emerald green; no trees or shrubs anywhere; small stream; all streams flow towards the desert.

	5-55	TUN-CHING-KHOR Bar. 26'15". Temp. 65°. Elev. 3,750'.	Reach the flat skirts to the hills. Good clay soil; good pasture; many ruins of hamlets and villages; should be a rich corn country.
	6-35	Small stream, 12 feet wide. Several herds of camels grazing.	
	7-30	SHI-JI . . .	Village; inns. A few trees and cultivation about it; partly occupied; stream 6 feet wide.

Cross several water-channels; this was once a well-tilled and populated district.

	8-18	Ruined, and partly occupied village; peas, wheat, clover, &c., cultivated; wheat 9 inches high; the road is 40 feet wide and in fair order, except for floodings from irrigation cuts. A continuous line of farmsteads line the road from 7-30.
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	9-0	Small stream.
	9-30	Mud fort in suburb.

ROUTE NO. 6—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 9-40	TSI-TAI-HSIEN .	67	784	Inns; 7½ hours.
		Bar. 26°16". Large Bar. 26°3". Temp. 78°. Elev. 3,750'.	Forty-five Chentu families and 80 Chinese families; 70 shops in the long suburb. Garrison, 500 Sz'chwan soldiers under a Bazun; a donkey-road goes to Pichen in 2 days.		
	P.M. 12-20	Re-start. The city walls of mud, in ruins.			
	12-40	Cross several streams and canals; ruined village; over a flat; soil gravelly and somewhat barren.			
	12-45	Road, a broad hard track; hot airless day; now clouding over.			
	12-53	Altogether 200 to 300 sheep seen and a few goats; sheep have broad tails; goats have horns and a yellowish long hair; to right is a limited distant range, 50 miles off, bearing 20°. To the right half front, on the horizon, a distant range is seen; the flat between looks steppe; after 3 or 4 miles it must be swampy.			
	1-7	Cross a rapid stream, 30 feet wide and 1 foot deep (at times 200 feet wide). Water running to waste, and good land idle. Road much flooded and heavy.			
	1-50	Bar. 26°35". Temp. 84°. Elev. 3,550'.	Halt 15 minutes. Ponies now used for draught (13.2 to 14.2 hands in height). Mules rare.		
	3-50	SI-SHIH-LI-LAZUN .	Station and inns.		
	The snowy Tien-shan dies away on line 270°. They recommence on a back line, 135°.				
	5-0	A flat steppe; 100 camels grazing; horses eat the low herb covering the flat; clay soil; hard track; in parts gravelly.			
	5-45	Sun shines. The steppe covered with high grass.			
	6-23	The snow-peaks look 30 miles off; 50 fine camels; all almost hairless. The detached hill skirted is the terminal of a spur from the Tien-shan.			
	A.M. 6-45	The new city Gu-chen lies between 298° and 306°.			
	7-0	Descend and cross a plentiful stream, 12 feet wide. Cultivation commences; the road leads round north of 306° to the Chinese suburb, 600 to 700 yards below the town.			
	P.M. 7-40	Enter suburb gateway; suburb well filled with shops; wood, <i>i.e.</i> , fir poles, freely used in their construction.			
9	9-0	GU-CHEN . . .	70	854	Inn. (See Part I.)

Camel-roads to Chugu-chuck, Kobdo, Uliassutai, and Kwei-wha-cheng; to Uliassutai is from 22 to 24 days; to Kwei-wha-cheng 60 days, cost per camel 17 taels.

There are 500 Hunan soldiers and 500 Chebing or Chinese in garrison under a Hu-gi Mandarin. Population—over 1,000 Chinese families; 25 Manchu families; over 40 Chentu families; 70 large shops, in all over 100. The city is under the Chi-tai-hsien Mandarin. Plenty of Chinese women seen here. Flour costs 1 tael the 100 catties; coal costs 3 taels for 1,000 catties, and comes from four days off on the Kobdo road (?). (See page 155.)

ROUTE NO. 6—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
		Bar. 27'23". Large Bar. 27'38". Temp. 68°. Elev. 2,650'.	A Manchu city has been built and is to be occupied this year. The place seems one of importance and trade. English cottons come from Tien-tsin, <i>via</i> Kwei-wha-cheng and Han-kou; they are dearer than the Russian, but more bought by the Chinese, being, it is said, of superior quality; white cotton costs 8 dollars the roll, English cloth (blue) 1 dollar 10 cents per foot; Russian from Ili 80 cents per foot.		
		Flies here for the first time met with; cloudy and sultry day.			
	14th. A.M. 11-0	GU-CHEN . . .	...	854	Leave inn. Fill up straw and grain bags. All sorts of articles are sold in the bazars,—soap, tea, matches, &c., hardware, crockery, rope, mule gear, &c.; wheelwrights, blacksmiths, &c., &c.,
		plentiful. A small trading centre. Leave suburb; through ruined town, passing through no gateway; old walls of city low, from 12 to 15 feet high, of mud; bad order. The new city lies beyond the ruins, 100 yards to left; it was built by the soldiers.			
	11-40	Over the steppe; clay soil, culturable.			
	11-50	Limits of new city, as taken yesterday, 70° and 86°, 1,000 yards off. High grass and good grazing; track hard and broad.			
	P.M. 12-35	Small stream (left to right); meet 10 carts, carrying natural coked coal to Gu-chen; it is found in the Tien-shan, at Kwah-sun, 220 li off; 1 cart-load, drawn by 1 bullock, costs 1½ taels.			
	12-45	Bullocks here of size. Small stream.			
	12-55	Bar. 27'1". Temp. 86°.			
	1-0	Small stream.			
	1-13	Slow pace, 8 li the hour; we have been averaging 9 and 9½ since leaving Barkul over easy roads.			
	1-20	Cross a marshy depression.			
	1-35	Small stream, 4 feet wide.			
	3-2	Ruined farmstead.			
	3-40	TA-CHEN . . .	Ruined village. Fifty li, so called; to Gu-chen, 35 li; part-occupied inn.		
	4-20	Ruins; large village; low bushes now plentiful; 7 to 8 miles to the foot of the snowy range, which rises very abruptly. The ruins extend along the road for some distance. A few farmsteads are reoccupied; excellent soil.			
	5-15	End of ruined village. Small stream, 6 feet wide; a flock of 100 sheep.			
	5-27	Ruins of farmsteads still line the road.			

ROUTE NO. 6—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	P.M. 5-55				Reoccupied village; meet 30 carts (1 bullock to each) bringing the natural coke from the hills. A line 275° marks the foot of the hills.
	7-0				Small stream.
	7-6				Small stream and hamlet. Pass through a large ruined suburb.
10	7-25	CHI-MU-SAH . . .	63	917	Inn, in suburb of town of Chi-mu-sah; since Ta-chen we have passed through a once well-peopled and cultivated district. From 6-0 the country was well wooded; the whole well watered by streams from the hills. Called 90 li; 35 Chinese families and 20 Chentu families. Carts generally take 6 days from Gu-chen to Umio-tza.
					Bar. 27'3". Large. Bar. 27'425". Temp. 80'. Elev. 2,550'.
					Garrison—300 Chebing soldiers. The coke is found in the hills, near San-tai (the next stage).
10	15th. A.M. 4-0	CHI-MU-SAH . . .	...	913	Cloudy and windy. Through poor suburb of small walled town; flat roofs, consisting of grass and mud, over fir poles; low huts.
	4-15				Rounding the town; canals plentiful.
	4-25				Rounding an old mud enclosure to right, and then through ruins.
	4-30				Bar. 27'31". Temp. 68°.
	4-40				Small stream. Crossing a dry nullah bed 100 feet wide the country becomes unoccupied, and bushes cease to grow in same quantity as before.
	4-42				Camels plentiful. Road generally a broad, hard track, over clay, contracting to 1-line at bridges. Bridge, of piles, of fir poles.
	5-0				Ruined village. Low hills 2 miles to left, and beyond them the main range; no hills seen to right; country flat and open.
	6-45				Village. High head wind.
	7-30				Ruined village.
	7-50				Clay soil; untilled.
	9-30				A belt of trees and rich soil; part cultivated; barley 2 feet high, in ear.
	8-53				Ruins. Peas, wheat, and barley cultivated.
	9-10				Village; many bushes.
	9-17				An excellent road, 40 feet wide, except where destroyed by irrigation cuts. Ruins extend along the road; in part reoccupied.
	9-45				Small streams in plenty cross the road, flowing over pebbly beds.

ROUTE NO. 6—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 10-30	SAN-TAI	52	969	6½ hours, called 70 li.
		Bar. 27°65". Large Bar. 27°78". Temp. 70°. Elev. 2,250'.			Heavy wind has lulled; we have passed through a rich agricultural country (if occupied), well covered with bushes and trees, except for a few miles. Three hundred Chinese and 10 Chentu families here. Good coal; saw several cart-loads of it; it has a dull lustre; 4½ taels is the cost of 1,000 catties. A road goes to the mine from here. Garrison—100 Chebing soldiers.
	P.M. 1-27				Re-start through rich cultivation, bushes, and small trees; an excellent road, generally 30 feet wide.
	1-46				A large ruined village.
	1-48				The belt of cultivation is not many miles deep; here it extends 4 or 5 to the right. A spur from the hills reaches to this.
	2-16				We skirt the hill to left, which is of clay, and from 300 to 500 feet high. Cold wind. Temperature 60°. Threatening rain. Good grazing in places.
	3-10				Cultivation ceases; a steppe traversed; looks barren to the right.
	4-0				Soil, gravelly; skirting low hills, composed of clay and gravel.
	5-15	SI-SHIH-LI-CHINZA .			Refreshment huts.
	6-5				Four miles from the rugged brown, hills to the left; flat steppe to right.
	6-15				Clay soil; shrubs recommence to grow.
	6-45				Ruined village; meet a string of 300 to 400 unladen camels.
	7-5				Ruined village.
	7-30				Numerous ruined farmsteads.
	7-45				Ruined village; part occupied.
	8-15				A rich, well-wooded country; small trees and shrubs. Through cultivation, in the darkness crossing innumerable wooden culverts (1-line) over water-channels.
II	9-45	SZIN-I-CHIEN Bar. r28°0". . . .	70	1,039	One hundred and thirty Chinese and 4 or 5 Chentu families. Light rain during the night.
	16th.	SZIN-I-CHIEN . . . .	...	1,039	Cool and pleasant after the rain.
II	A.M. 6-0				Leave cultivation. Hills from 4 to 5 miles to the left; a flat plain to right; small mud camp; camels in plenty. A low tamarisk covers the plain; now on the range behind the first barren range.

ROUTE NO. 6—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 6-24	Soil, sandy clay, seems of good quality; water in wells, 15 to 20 feet from surface; cuckoos in the bushes; doves, pigeons, crows, and small birds are plentiful. Slow pace, 7½ li an hour.			
	6-45	Ruined hamlet.			
	6-55	Small stream.			
	7-8	Ruined hamlet. Camels and bullocks grazing on the bushes and the high grass which here covers the plain.			
	7-30	Bar. 28·0". Temp. 63°. Elev. 1,950'.	Inclined to rain; cloudy. (<i>See sketch No. 49 of Tien-shan ranges.</i>)		
	8-20	Difficult to trace the road amidst the high grass.			
	8-55	Ruined hamlet; cattle and ponies grazing (20 to 30 of each) on the high coarse grass.			
	10-37	A low ridge, bearing 330°, is about 30 miles off to right ¼ front. The track, over clay, has been soft all along from the rain.			
	11-20	Hut. Attacked by 4 dogs, in charge of camel-packs; horse bitten in mouth; dangerous and savage brutes; had to canter for life, dogs jumping up and snapping at my legs.			
	P.M. 12-48	Pass a few ruined farmsteads.			
	1-10	Enter a belt of rich cultivation, trees, shrubs, &c.; pace improves.			

Again very many wooden culverts over small water-channels; a pleasant road winding through coppice and wood; little of this rich land as yet cleared of weed and bush; farmsteads line the road; all ruined; these oases are paradises of birds. Some good timber.

	2-8	GU-LUN-GAY . . .	Small walled village; in part occupied. Halt 5 minutes.		
	2-30	Bar. 28·06". Temp. 67°.			
	2-36	Hills to the left are 6 or 7 miles off. Peas grow very luxuriantly.			
	2-40	A flat wooden girder bridge, 50 feet long, over a dry stream. The belt of cultivation looks 2 to 3 miles broad, both to right and left.			
	3-30	Fu-khan 1 mile distant. There is a mud fort, from 70 to 100 yards side, on the east side of the village.			
12	4-5	FU-KHAN . . .	70	1,105	Inn. A few shops in the east suburb. Town entered through double gateless gateways; main street from 500 to 600 yards long; its shops are closed.

Population.—130 Chinese and 40 Chentu families. The Chentu are taller and of finer physique than the Chinese; many of ruddy complexion. Garrison—500 Chebing and 250 cavalry.

ROUTE NO. 6—continued

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
12	17th. A.M.	FU-KHAN	...	1,109	
	3-0	Bar. 27°95". Elev. 2,000'.			
	3-45	Pass over a clay soil, partly cultivated, and well watered by numerous streams; a rich soil.			
	3-50	A 2-lined, raised (1 foot) road; 1-line at culverts (of wood, and numerous); a moist country on account of irrigation; cultivation to the low hills 3 to 4 miles to the left, and to right 3 to 5 miles on the glacis slope to the vast plain seen there. A magnificent pile of snow-hills bears 135 (Bogdo-Ula). (See sketch No. 50.)			
	3-58	Bar. 28°0". Temp. 53° (air 49°).			
	4-10	Again attacked by four dogs, guarding a camel camp off the road; all jump up at the horse's nose, and I canter off madly to get rid of them.			
	4-25	260° is the limit to the Tien-shan as seen.			
	4-48	Cultivation and bush cease; steppe takes their place; this is due to the low hill close to left cutting off the streams from the snows; clay soil. These oases are pleasant spots, and their tree foliage, shrub and other growth luxuriant. They are but very partially reoccupied; much more land could be reclaimed by economizing the water-supply.			
	5-9	A clear and cloudless day. Rain last night. Pace 8 li the hour.			
	5-17	Rounding the low terminal of outer range of Tien-shan; soil, fertile; sandy clay. Same character of country extends as far as the eye can reach, <i>i.e.</i> , a plain, at the foot of the snowy range; high snow-peaks bear 237°, 234°, 128° to 131°, &c.			
	6-30	Ruined enclosures.			
	7-45	Hut and refreshment. Halt 10 minutes.			
8-36	Over a soft, spongy, clay soil.				
9-6	Pass over ground broken into broad ravines.				
9-30	Pass up a broad, flat-bottomed ravine, 600 yards wide, sunk about 30 feet.				
9-37	Bar. 28°1". Temp. 80°. Elev. 1,820'.				
10-50	No hills seen to the north of 270°, and a vast plain stretches there, covered with a low weed, which horses will eat; small stream.				
11-0	A few huts.				
11-8	Enter a grassy and cultivated plain fronting the snowy range; bushes. (See sketch No. 49.)				
11-25	Halt 5 minutes to cross a deeply sunk nullah; bad, muddy track; clay soil.				

ROUTE NO. 6—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	P.M. 1-10	GU-ME-DI Bar. 27'78". Large Bar. 27'88". Temp. 93° in holsters. Elev. 2,200'.	80	1,189	10½ hours. Population—40 Hwei-hwei families, and from 20 to 30 Chinese families. Garrison —500 Hunan soldiers. The Hwei-hwei took this place and occupied the line Gu-chen, Barkul, Hami, Su-chow, during the rebellion. They also occupied from Turfán to Hami.
	3-30	Leave inn. The village is a ruin. Wheat, from 2 to 3 feet high, ripening. Small streams plentiful.			
	4-15	Stream, 6 feet wide, flowing left to right.			
	4-27	Small stream. Peas, wheat, &c., growing; a fine shrubbery just here.			
	4-58	Plentiful stream.			
	5-1	Traverse a lane, bordered by timber trees; rich foliage.			
	5-27	Ascend a richly cultivated valley, 1½ miles broad, leading up into the hills.			
	5-30	A regular thicket, through which the road, 1-lined and muddy, winds.			
	5-42	A mud camp or village, with a side of 150 to 200 yards. A stream, 6 feet wide, has been on our right hand all along; camp; occupied. The road turns to the left and passes through its corner. Walls 8 feet high, fronted by a ditch 6 feet deep.			
	6-4	Bar. 27'3". Temp. 84°.			
	6-8	Leaving the cultivation, and passing over the hill, bounding the head of the valley. Halt. This road leads to Kulaja without passing through Umiotza. Return to 6-0, and take a road bearing about 180° up the wooded ravine. Pass over undulating grass and corn lands. Rich soil covers these undulations.			
	7-15	Through the ravine leading on to the downs to the north of the town.			
	7-34	Passing over rolling downs and ascending; 2 or 3 miles to low hills to the left, fronting the snows.			
	7-45	Down glaciis slope leading to Umiotza, about 1,000 to 1,200 yards off. Somewhat swampy to the left of the road; over the glaciis and flat; clay soil.			
13	...	UMIOTZA	35	1,224	The citadel at first passed through is about 600 yards wide; we pass out of it at 8-10, having turned to the right to enter it, and then go through the suburb or outer city; muddy streets; city in a state of being reoccupied. Outside the city bricks are stacked, and are being carried over the wall on wooden stages to build barracks. The citadel is entered and left through double gateways of burnt brick, 50 feet deep; wall of mud, about 15 feet high; usual gates of wood, 6 inches thick, faced with thin iron. Wells in the centre of the inn-yards, and into them drains all the urine of mules, ponies, &c.; pleasant! (See Part I for details of neighbourhood.)

ROUTE No. 6—concluded.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	P.M.				
	9-0	Bar. 26'98".			
	18th.				
	3-0	Bar. 26'91". Large Bar. 27'05". Temp. 70°.			
	6-30	Bar. 27'0". Large Bar. 27'12". Temp. 62° in-doors. Elev. 2,900'.			
		To Kuldja—			
			li.		
		Stage 1—Tsangi . . . . .	. 90		
		" 2—Kou-to-bay . . . . .	. 90		
		" 3—Tiokoulu . . . . .	. 70		
		" 4—Monas . . . . .	. 90		
		" 5—Ola-usu . . . . .	. 90		
		" 6—Yen-sa-hai . . . . .	. 90		
		" 7—Kuay-tun . . . . .	. 90		
		" 8—Khara-usu . . . . .	. 90 (town).		
		" 9—Su-kou-ju . . . . .	. 70		
				li.	
		Stage 10—Twei twei . . . . .	. 90		
		" 11—Kwur-tu . . . . .	. 70		
		" 12—Khin-khor . . . . .	. 90		
		" 13—Ta-khur-yen . . . . .	. 90		
		" 14—Wu-ta . . . . .	. 90		
		" 15—San-tai . . . . .	. 90		
		" 16—Urtai or Kwor-so-gu . . . . .	. . . . .	
		" 17—Lu-san-gu . . . . .	. 90		
		" 18—Sidi or Ili . . . . .	. 90		

If a heavy fall of snow fall in the hills before reaching Ili, soldiers open the road. Cultivation on this side of Khin-khor is fair; it is less beyond; trees met with; oases occur on this side of the same place, but not beyond it. Straw is plentiful at the road inns, and is not expensive; the cost is about the same as on the road to Hami.

Cart (4 mules) from Ili to this costs 20 taels; cart from this to Ili 30 taels; cart to Hami costs 20 taels.

ROUTE No. 7.

JUNE

Umiotza to Karashahar.

1887.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	19th June.				Eight or ten drunken carters kept up a fearful noise till early morning and had to be ejected. Chinamen are noisy in their cups. Cloudy day; cool.
	A.M. 4-30	Bar. 27'01". Temp. 65°.			Rain fell during the night. I should not estimate the garrison of this place as being over 3,000 at the utmost. Leave civil city through gateway and skirt the town wall, passing down dirty suburb street, just allowing 2 lines of traffic; 3 to 4 miles to hill to the west.
	9-54				skirt the town wall, passing down dirty suburb street, just allowing 2 lines of traffic; 3 to 4 miles to hill to the west.
	5-20				End of the town, which is about 1,000 yards long in all.
	5-25				Through suburb; many shops, chiefly to supply mule gear, coarse cloth, bread, fir poles, &c. Shops chiefly kept by Chentu, but Chinese shops are mixed up with them. Meet some 20 carts laden with fir poles up to 9 inches in diameter.

ROUTE NO. 7—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A. M.				
	5-40	Get into country; streams course along the suburb streets, in open drains, from which the drinking supply is drawn. They have first-rate irrigated vegetable gardens, often highly manured.			
		Many of the Chentu are fair, tall and slight, and in their long robes and high boots might be taken for Russians; generally, however, they are stoutly built, and rather too fat, if anything; straight features; women generally bloated-looking; men wear skull-caps or conical hats with a fir rim; women plait their hair in two or more tails.			
		Five miles to hills to the left, grass and cultivation between, with low bushes; hills 1 mile off to the right, between a broad gravelly river bed, from 500 to 600 yards, running (330°) to the west of the conical hill near the town. (See sketch No. 55.)			
	6-0	Customs station and small mud fort. They all take me for Urús or a Russian.			
	6-20	Ground undulating.			
	6-50	A mule and direct road, <i>vid</i> Lan-san, leads to Toksun. The cart-road undulates through the low hills by gentle gradients; meet numbers of donkeys, from 80 to 100, dragging fir poles.			
	7-36	Good road; 2-lined hard track since leaving the suburb of the town. Still meet many carts laden with long, straight, fir poles, from 3 to 9 inches in diameter.			
	7-42	To the right and left an undulating stony and barren country stretches to			
	7-48	low hills, 3 miles to left, and to the hills fronting the snows, to the right, on line 270°; 347° is a back angle down stream to the west of city.			
	8-16	Halt 30 minutes. There is a large pond close to the left. Unoccupied camp. Hut and Chentu family. Small stream.			
	8-54	Rising and winding through low hills, of gravelly clay.			
		Bar. 26'4". Temp. 75°. | Stony roads, gradients up to $\frac{1}{10}$. Elev. 3,450'.			
	9-5	Descend; to the right, from the foot of the hills, 1 mile off, where there is cultivation, extends a vast uncultivated plain to the hills fronting the snows; 80 to 100 donkeys, of good stamp, dragging poles (6) to the city.			
	9-26	The cart-road winds very much amongst these stony and rocky undulations.			
		The cavalry ponies seen looked like Ili ponies, <i>i.e.</i> , not so thickly set as the Mongol pony, and a little higher; well suited for light cavalry and mounted infantry.			
	9-55	Small stream. Amidst low gravelly hills.			
		Bar. 26'35". Temp. 88°. Sun and cloud. Elev. 3,520'.			
	10-10	Bar. 26'25". Elev. 3,620'.			
		Descend out of the low hills on to plain fronting the snows.			
	10-20	Bar. 26'35". Again enter low hills; flat towards 250° and 270°.			

ROUTE NO. 7—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- medlate.	Total.	
	A.M. 11-10				Tomb of mud; domed structure. Grazing.
	11-22				Through low hills.
	11-43				Descend off the low hills.
					Bar. 26'05". Temp. 92° in holsters and 80° in air.
Into the plain fronting the snows. (See sketch No. 56.) Tufts of coarse grass growing; 50 camels grazing; hard gravelly track.					
	11-54				A regular break in the range on ahead; hills to left, 3 miles off. To the south, 4 or 5 miles distant.
					Bar. 26'01". Elev. 3,900'.
	P.M. 12-30	YEN-TSE			Watershed; drainage now to south. Occupied enclosure or inn, and yard; 50 li. Halt 10 minutes. A 1-line, wet track over spongy clay soil growing tufts of grass.
	1-50				Enclosure. Road again broad, hard, and gravelly; 3 to 4 miles to the hills on either hand.
	2-15				Ruins.
	3-52				There is a long lake along the skirts of the hills, 1½ to 2 miles to the right.
	4-8				Bar. 26'15". Temp. 80° in holsters and 74° in air. Elev. 3,720.
	4-18				Top of the hills, 3 miles to left, well covered with snow; not so those to the right, which are bare; the fir poles come from the range further to the westward.
	5-20				Farmstead and inn; a little grazing. Called 90 li.
I	...	TSWAI-WAH-PU	87		
					Bar. 26'16". Large Bar. 26'38". Temp. 72°. Elev. 3,720'.
Row with the rude Mandarin of the place, who, without ceremony, entered my room at the inn. Turned him out and offered to take all consequences of the ejection, but could get no more pugilistic attitude out of him than that of a Roman Senator, accompanied by a scornful air and loud words. An appeal to the bystanders, as to whether a rude man should not be treated with rudeness, put him thoroughly in the wrong, and a display of my Peking passport brought him to a proper sense of our relations to each other. Efu, a peppery little fellow, stands up for one well; Bela Sing never shows up on these occasions. There are a few Chentus and Chinamen here.					
I	20th.	TSWAI-WAH-PU Bar. 26'2". Temp. 62°. Elev. 3,680.	87		Rain fell last night. The Chinese donkeys beat the Persian out and out in pace.
	A.M. 4-30				Over plain, growing a poor grass, in tufts.

ROUTE NO. 7—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	A.M. 6-0	Over a barren, gravelly plain. Hills to left 4 to 5 miles off, and to the right 2 miles. Ponds occur below the skirts of hills to the right.			
	6-55	A patch of grazing.			
	8-50	Inn-yard and ruined village.			
	9-20	Low hills now close in on left. Bad stony track. Cloud and sunshine; wind from north-west, from north yesterday; some yellow and red clays in these outer hills.			
	10-0	Ruined enclosure. Halt 10 minutes. Patch of coarse grass. Bar. 26'3". Temp. 82° in holsters and 68° in air. Elev. 3,580'.			
	11-0	Patch of grass.			
	11-45	Flock of sheep.			
	P.M. 12-22	Patch of grazing along the skirts of the hill to the right.			
	12-30	Skirts of the hill are of steep slopes of shingle spread out like fans. (<i>See sketch No. 57.</i>)			
	12-40	Snow-hills in direction 75° some 10 to 12 miles off. Hills to left 8 to 10 miles off, and close in to right.			
	12-50	Enter the oasis. Small streams plentiful. Trees, grass, and cultivation. Many ruins. Bar. 26'17". Large Bar. 26'35". Temp. 80°. Elev. 3,700.			
2	7-15	TA-BANG-CHING	70	157	A small village in a well-wooded oasis at the entrance to the gorge in the hills. (<i>See sketch No. 58.</i>) 8½ hours. There are 40 Chinese and 160 Whei-whei families here. Little snow falls. The high wind, which blows through the pass to the plains, keeps off both rain and snow; the heaviest rain falls generally in September. No soldiers here.
2	21st.	TA-BANG-CHING	...	157	
	A.M. 3-50	Start. Pleasant air; clear day; pleasant place.			
	4-23	Bar. 26'15". Temp 53°. Elev. 3,700'.			
	4-33	The hill skirts are of finely-broken shale; it is held up at steep slopes in all the ravines to the hill tops; pheasants in the grass.			
	4-39	Road along the shaly skirts of the hill. Snow on the range, 4 miles to the left. Low hills, 2 miles and under, to the left; a plentiful stream, 10 feet wide, flows down the gorge. Ruined fort, with 100 yards side, built of mud, with corner bastions, on a low 10-foot eminence of shale; a few huts and a mill.			

ROUTE NO. 7—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES		DETAILS.
			Inter-mediate.	Total.	
	A.M.				
	4-50				Cross a stream, 30 feet wide.
	4-55				We cross the foot hills of the range (range here practically wanting), by ascending through them by natural roads (left bank of the stream).
west.	5-2				Farmstead. Gorge, bordered by hills of clay and shale, from 10 feet to 100 yards wide; covered approach given by trees; bushes to south and hills, hummocky and intricate, altogether restrict side movements.
	5-10				Veins of shattered felspar break through the shale.
	5-37				Road good and broad over loose, small shale. A steady incline.
	5-53	Bar. 25-75"			Fifty feet of rock cutting, 10 feet wide and 15 feet deep. Descend steeply down a ravine from 30 to 50 feet wide, at $\frac{1}{4}$ to $\frac{1}{10}$; track over loose shale. Flat bottoms to all ravines.
	6-3	Bar. 26'03"			Elev. 3,850'.
	6-20				Steep rise at $\frac{1}{10}$.
	6-30	Bar. 25'55"	Temp. 61°		Cutting 10 feet wide in rock. Descend down broad slope of shale; gradient $\frac{1}{10}$, $\frac{1}{10}$.
	6-43				Halt 25 minutes; a mule-track goes off to left. There are many such; gradients, $\frac{1}{8}$, $\frac{1}{6}$.
	7-27				The pass narrows to 20 feet and under in places, and winds.
	7-45				Bottom of incline; gain the ravine of the main stream; inn.
21st. A.M.		Bar. 26'7". Large Bar. 26'8". Temp. 90° Elev. 3,150'.			Ravine, 200 yards wide, bounded by perpendicular rocky cliffs; bushes and trees along the stream; 25 li.
	10-5				Re-start, winding through thick shrubbery of willows, &c., down the river valley, and undulating along its left bank, border hills. Few carts use this road; donkey transport in chief use.
	10-43				Good track over shale.
	10-53				The mule-track kept along the river, 800 yards off, to right; hills of dark brown indurated shale
	4-5				Over wide gravelly slopes.
daily wind.		Bar. 26'45"	Temp. 95° in holsters and 85° in air.		Wind from rear, <i>i.e.</i> , the Elev. 3,400'.

N.B.—The river took its rise in the snows, bearing 75° before entering the hills.

11-16 | We are practically out of the hills now, and traversing their skirts of gravelly shale and clay, a peculiar characteristic of the range in its eastern extremity; don't know why grass does not grow on them; too dry? Halt 15 minutes.

ROUTE No. 7—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	P.M. 12-10				Hills still continue to the west, where the belt is deeper.
	1-4				Halt 10 minutes. We again wind amongst hills.
	1-26				A mule-road, from 12-48, leads direct to Pay-an-kwah, the cart-road making a great wind and dip: this is a more difficult passage than the one from Hami; more undulating, and the shale makes it heavy going for carts; good for donkeys, as there are many bridle-paths. The bridle-path from the river valley must be a very direct one. Sections show shale over 30 feet deep; it fills all valleys and ravines; some red clays here; a greenish coppery look about some of the shales.
	1-45	PAY-AN-KWAH			Station and inn; 50 li. Halt 8 minutes; small spring; a little grass. Bar. 26'72".
	1-58				The Turfán road takes a direction of 90°. We have again gained the skirts of the hills; the Turfán road slants down them; we rise; stiff pull, keeping close to western hills.
	2-43				High wind. Bar. 26'2". Temp. 80°.
	2-44				Descend into a broad valley; hills rise out of the skirts which are formed by the filling up of all the valleys with shale.
does mica)	2-52				Descent $\frac{1}{10}$, $\frac{1}{12}$, &c.; mica in slabs 3" by 1" by 1" lie about, otherwise mica not glisten anywhere; stone like loaf-sugar, but softer, occurs (? decomposed mica); white and red clays; later on triturated mica, felspar, and gypsum become plentiful.
	4-0				Down shingly river bed, half a mile broad. Bar. 27'35." Temp. 88°. Elev. 2,500".
	4-35				A patch of grass; the bed is dry; the shingle is banked up against its banks of clay perpendicularly. (<i>See sketch No. 59.</i>)
3	4-40	SHOU-TSOU-KOU	80	237	The road all along leads over shingle which fills up the valleys, and is heaped up on the hill-sides. Bar. 27'46." Large Bar. 27'66." Temp. 88°. Elev. 2,350'.

TO TURFÁN FROM PAY-AN-KWAH.

li.

1st Stage—San-kon-chuenza	.	60
2nd " Kinken	.	90
3rd " Turfán	.	50

TOTAL . 200 li, or say 150 li, or 50 miles.

Water from small spring; windy.

ROUTE No. 7—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	22nd. A.M. 4-20	SHOU-TSOU-KOU Bar. 27'6."	A high head wind.		
	5-0	Down the dry stony bed of the valley.			
	7-15	Bar. 28'2." Temp. 74.°	All along over a sea of shingle; heavy work for carts. Leaving the foot hills of the Tien-shan, which are of shingle or clay, covered with shingle. In front lies a long ridge of hill; 110° is its limit. Rain.		
	11-5	At last off the shingle skirts of the hill, so painful to man and beast. Enter an oasis running east and west.			
	11-30	Village	Small stream; streams flow right to left. Much uncultivated ground, growing grass and weeds; clay soil; road very winding. Farmsteads dotted here and there; a line bearing 80° limits the Tien-shan outliers; road, a 1-line track, over clay.		
	P.M. 12-4	Pits in two rows along the road; rifle-pits and a line of defence in Yákúb's day? Younghusband says wells. Gravelly clay soil.			
	12-55	Cross stream 10 feet wide, and a second 30 feet wide, by bridges and causeway, and down the small market town or village street, lined with shops, chiefly selling mule gear.			
4	1-5	TOK-SUN	72	309	8½ hours.
	...	Bar. readings 29'8." Large Bar. 29'85." Temp. 85.° Elev. 270'.			

Tok-sun is about 8 miles from the ridge of hills to its south, which is fronted by long skirts of shingle. The oasis not a rich one. Few trees about the villages; much waste or uncultivated land; a gravelly clay soil.

To Hami—(See Part I.)

STAGE.		li.	
1—	Turfán	120	(Town.) Road more or less hilly.
"	2—Sin-king	90	(Village.)
"	3—Le-ma-ching	90	(Do.)
"	4—Pe-chen	70	(Town.)
"	5—Chi-ko-tai	90	(Village.)
"	6—Chi-en-tse	180	(No cultivation.)
"	7—Tung-ent-zer	110	
"	8—Chier-go-lu-chen	90	(No straw.)
"	9—Zadz-chen	60	(Do.)
"	10—Laou-tung	90	
"	11—San-tou-ling	110	
"	12—San-pu	90	(Village Chentu.)
"	13—Er-pu	70	(Do.)
"	14—To-pu	60	(Do.)
"	15—Hami	90	

Total 1,410 li, or 1,100 li, of 3 li to 1 mile.

ROUTE NO. 7—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	

Ila Khor is the name given to the lakes 30 li to south-east of Tok-sun. There are Mongol villages and 200 families there; bridle-paths lead thence to Karashahar with water and grass along them. It is 8 days from Turfán to Lob-nor, and about the same from Karashahar (the latter distance is a little the longer).

Population—over 400 Chentu families, 200 Whei-whei families, and 10 to 20 Chinese families. Garrison—250 cavalry and 250 infantry from Hunan and Shansi.

The stream is the one from Ta-bang-ching. There are a military Chinese Mandarin and two inferior Chentu and Whei-whei Mandarins here.

ROUTE FROM HAMI TO TURFÁN.

The distance of Turfán from Hami is about 270 miles by the main road. There are stages usually at about every twenty miles, but inns are frequently met with at shorter intervals. I took nine days to accomplish the distance; the time usually taken is about twelve days. The road is practicable for carts throughout, but in parts it is very heavy on account of the shifting gravel of which the slopes of the hills are composed. For the first three marches the road leads over a level country at the base of the Tien-shan mountains. The country is for the most part desert, but small oases are met with every ten or fifteen miles. On the fourth day the road enters a broken hilly country crossing some outlying spurs from the Tien-shan mountains. In this part no villages are passed. After crossing these hills the road descends into the Pidjan district. The town of Pidjan is situated in a very fertile oasis, at a distance of 200 miles from Hami. Beyond this the road passes through a succession of small oases, each supporting a small hamlet or village, situated at the northern foot of a low range of bare hills. At 30 miles from Turfán the road passes through the range and crosses a desert to Turfán. The country passed through being desolate for the most part, *supplies* could not be obtained for an army of any great size, but it is probable that some 10,000 soldiers were supported along this line during the re-conquest of Kashgaria by the Chinese. Wheat is the principal crop grown. Water can be obtained only in the oases; between these the country is perfectly desert and water is unprocurable.

4	A.M. 23rd.	TOG-SUN . . .	...	309	Delayed, whilst shoes are being made for mules; none kept in stock. Wind has ceased and fine clear day.
		Bar. 29'95". Large Bar. 30'0". Temp. 78°. Elev. 350'.	Wool costs 2½ taels for 100 catties; cotton 7 taels for 100 catties; coarse cotton cloth 8 taels for 160 Chinese feet = 90 yards, nearly 30 inches broad; raisins, plentiful at Turfán, cost 3 taels for 100 catties; grapes at Turfán cost from 15 to 18 cash the cattie; will ripen in one month (July); they grow there plentifully. This year is considered to be cool. In 15 days it will be very hot. Ponies are said to come from Karashahar. Cotton is sent to Umiozta, Manass, Hami, &c; it grows here and at Turfán, Pechen, &c.,—and is of excellent quality. The road to Hami is more or less hilly. Have to lay in corn and straw here for four days, the hills to be crossed towards Karashahar being barren.		

9-35	A.M.	Start. There are several mud forts about the town; one alongside of it 500 yards side with projecting centre, and end bastions for flanking defence exterior walls, in all 15 to 18 feet high; rampart and parapet; holes for loopholes. Entrance to the fort, on the north side, through a court-yard and double gates, forming a projecting, flanking bastion of size. (See sketch No. 60.)
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ROUTE NO. 7—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 9-45	Mud fort, of 300 to 400 yards side, to right; all forts close together; the large one unoccupied.			
	9-55	Cavalry ponies said to be out grazing; a sandy clay soil; all waste; little grass. The snows 20 to 30 miles to right; road, a 1-line track, sunk from 1 to 3 feet.			
	10-50	Very slow pace across deep sand at the foot of a ridge of hills to the south.			
	11-20	A line of pits (rifle?) run east and west. The carts can make no pace over the yielding sand of felspar and hornblende (diorite?). The range ends about 10 miles to the east, and runs up to the snows apparently on line 270°.			
	P.M. 1-0	Bar. 29'4". Temp. 110° in holsters, 93° in air, 130° in the sand; have come about 5 miles. Elev. 600'.			
	Tok-sun must be specially hot, as it lies in the valley between the two sloping plains of sand and shingle.				
	6-30	Arrive after a steep descent into bed of a small brackish stream,			
5		SU-BA-SHI . . .	30	339	Station; called 60 to go li; is really, say, 30 li; but it took us 9 hours; a heavy, sandy pull.
		Bar. 28'7". Large Bar. 28'82". Temp. 87°. Elev. 1,250'.			A plentiful brackish stream wells out of the sandy river bed, opposite the station, a large walled enclosure, 150 and 100 yards side; no supplies. Bathing after sundown, found the stream and wind very cold.
5	24th. A.M. 3-50 4-10	SU-BA-SHI . . .	...	339	Amidst clay hills, continue up the ravine; a heavy, sandy pull; ravine 100 feet to 100 yards wide, bordered by high cliffs of clay and indurated clay rock. Small brackish stream flows down it.
	4-15	The hills show the action of tropical rain. Temp. 72°; shingle fills the bed of the ravine.			
	5-15	Ruins of an enclosure washed away by the stream, showing layers of dung 3 feet below the soil; slopes of shale or sand often reach to the tops of the hills.			
		Bar. 28'3". Elev. 1,600'. The stream flows beneath the shingle.			
	5-45	A very defensible defile; average width, 150 feet, bordered by steep hills.			
	6-45	Myriads of gnats; most distressing; little air in the deep stony ravine.			
		Bar. 27'6". Temp. 74°. Elev. 2,250'.			
	7-22	Bar. 27'3" . . .			Some of the rock of felspar and hornblende.
	8-22	Bar. 26'65". Temp. 80°. Elev. 3,200'.			

ROUTE NO. 7—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	A. M. 9-27	Bar. 26'2". Elev. 3,650'.			
	9-40	A plentiful spring bursts from the rock.			
	9-43	Narrow and steep track between boulders, of large size, of granite, and mixed in a confused mass with clay.			
	10-0	Small stream.			
6	10-10	WO-HO-BO-LA . . .	42	381	Arrive; 6½ hours; plentiful springs of excellent water; small station in the ravine; no supplies.
		Bar. 25'75". Large Bar. 25'98". Temp. 85°. Elev. 4,100'.			I rode on ahead of the carts. Efu and Bela Sing not seeing me for sometime, halt the carts and search for me to the rear, although it was impossible to get out of the ravine bordered by cliffs 300 feet to 500 feet high!
					When rain falls in the upper hills, the passage of this pass is dangerous, 5 feet of water rushing down it in its narrow parts.
6	P. M. 6-0 25th. A. M. 2-0	Bar. 25'65". Large Bar. 25'85". Temp. 75°. Elev. 4,220'.			
		WO-HO-BO-LA . . .	...	381	Winding track up the narrow ravine, as before closed in by high cliffs.
	3-0	Ravine widens to from 300 to 400 yards.			
		Bar. 25'1". Temp. 60°.			Sharp air; cloudless sky; clouds come and go daily.
					Heavy pull; still over gravel. Side hills break up into ravines. From Tok-sun to this has been the stiffest work for the mules that they have as yet encountered. The road is a natural one.
					Light head wind. The shingle in the ravine bed is all filling in, and is probably deep.
	5-30	The ravine opens out to right and left, 1 mile.			
	6-8	Bar. 24'35". Temp. 58°. Elev. 5,600'.			Descend.
	6-17	Road winds; hard track.			
	6-37	The valleys filled up with shingle and triturated shale; this peculiarity in these foot hills of the Tien-shan points to a long subsidence under water? The flat beds of the ravines are not themselves cut up by streams. The road winds amongst shaly hills and hillocks.			
	7-34	Ravine 300 yards wide.			
	7-51	Small spring.			

ROUTE No. 7—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	A. M. 8-4	SAN-SHU-UENZA .	Inn.		
	10-42	Having crossed one range of hills, another lies before us with a shallow separating valley between.			
		Bar. 26'0". Temp. 85°.			
	11-10 P. M.	All these spurs of the Tien-shan are of indurated clay, forced up by granite, gneiss, &c.			
	12-7	Track over shale more or less loose all day. The ridge we have crossed extends about 10 miles to the left; that we approach to about the same distance; another ridge behind it (dim) seems to extend to the left about 40 miles. Valley runs 120°; country along track from Tok-sun is absolutely barren. Thunderings.			
7	2-15	KAMISH . . .	90	471	12½ hours.
		Bar. 26'68." Large Bar. 26'9". Temp. 85°. Elev. 3,120'.	The hill we passed is called Ta-san-khor. Lake Bagratch is beyond the hill to south, 30 li off. Small spring here, 2 feet wide, 2 inches deep. 3 Chentu and 3 Whei-whei families occupy the small oasis. A nest of mosquitoes; mules and ponies get no rest, even standing over dung fires.		
7	26th.	KAMISH . . .	..	471	Ten soldiers stationed here; thunder during the night; rain-clouds early morning, flitting about; a few drops of rain.
	A. M. 3-20	Over a waste of sand.			
	4-0	Hills 1 mile to left. Snow seen in directions 280° and 290° beyond the 1st bare range.			
	4-22	Bar. 26'7." Temp. 70".	Tamarisk grows in clumps; its roots, &c., give fuel; a spreading shrub also covers the low sand-mounds.		
	Hills, to left, of same indurated clayey nature as heretofore; the clay is micacious; mosquitoes troublesome.				
	4-30	Bare hills seem to extend round the front horizon to rear; here about 12 or 13 miles to right; we are making for head of the enclosed shallow valley.			
	The rooms at the rest-stations or village inns stink of stale tobacco, and the earth of the floors and of the inn-yards is saturated with it. Shamshu would seem to be cheap, judging by the number of drunken carters one meets, one's only inn companions. Met 3 carts going to Turfán, with cotton cloth, Chentu boots, soap, &c.				
	6-0	Water to be found in the hollow; at times a stream flows down it?			
	7-45	Ascend the gravelly skirts of the hill.			
	9-10	Bar. 25'96"; hot and airless. Elev. 3,920'.	Enter the hills.		

ROUTE NO. 7—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M.				
	9-32				Winding up a ravine, 100 to 200 yards wide, bounded by cliffs of rock (indurated clay).
	9-40				Ravine in places, 200 yards wide; its bottom filled in flat with shingle, as usual in these hills.
	10-25				A few shady trees grow in the pass, and quantities of a sweet-smelling shrub (almond scent) with small white flower.
	11-0	USHA-GU . . .	62	513	Ruined enclosure and inn; 7½ hours; poor place; called 90 li. Water from well 30 to 40 feet deep. These mules go from 12 to 15 hours without food or water. One solitary traveller, besides ourselves, on this highway. The only pleasure of travelling in these wastes is the negative one of meeting no hatefully and obnoxiously curious Chinamen.
	3-25	Bar. 25'2". Temp. 88° in holsters and 78° in air. Elev. 4,680'.			Re-start. Still threading the broad ravine, up to 200 yards wide; the Tien-shan, and these its offskirts, would be very difficult to traverse, but for the natural roads formed over them by the filling in of the valleys with sand and gravel, here granitic; more generally it is of shale; rock here granitic; water of wells and streams cold and refreshing, although at times brackish. (See page 187.)
	4-28	Bar. 24'9". Temp. 92° in holsters and 83° in air; pleasant head breeze. Elev. 5,000'.			
	4-35				From 250° round to rear occur ridges similar to that crossed, separated by shallow valleys; they limit the view; they are, however, more knife-edged and narrower.
	5-18				A shallow valley to left, 3 miles broad.
	5-38				Gentle descent.
	7-20				Ruined enclosure.
	7-35				Traversing the flat valley; hills 1 mile to right; 3 miles to left; to left very knife-edged and clayey-looking.
	9-0				Track over a sandy waste.
	9-15	CHIN-CHINZA . . .			Inhabited hut. We skirt the hill to the right. Myriads of mosquitoes eat one alive, and greatly annoy the horses.
8	P.M. 3-15	USH-TABA . . .	102	635	Small village and oasis about 1 mile square. Plentiful stream. A nest of mosquitoes.

Seventy Chentu, 50 Whei-whei, and 4 Chinese families. Twelve hours; called 180 li.

ROUTE NO. 7—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
8	27th.	USH-TABA . . .			The road from Tok-sun to this passes over hills and valleys, producing nothing. The oasis at Kamish is too small to be made an exception of; generally, very heavy for carts up hill; donkeys, the chief traffic animal in use, are the best travelling at the rate of 3 miles an hour; water is found at within 20 miles intervals.
	P.M. 1-0				The oasis is plentifully watered by streams from the hills, 1 mile to right; a flat to lake to left, from 10 to 15 miles off.
					Bar. 26'04". Large Bar. 26'3". Temp. 70° (at 3' in-doors). Elev. 3,820'. Low hills seen beyond the lake.
	1-10				Small fort. The Whei-whei here is as hateful a man as his heathen brother, and a true Chinaman. The Chentus are fat in the face.
	1-35				Rapid hill stream; 100 feet broad, 2 to 2½ feet deep; gravelly bed.
	1-45				Over a stony plain, hills to right rocky, steep, and barren, grey and brown in colour,—in layers of great depth (probably indurated clays).
	2-52				The same 2 or 3 varieties of shrubs grow as before, each amassing around its roots a small sand-hill. Cloudy day; gusts of wind; rain falling in places.
		Bar. 25'96". Large Bar. 26'05". Temp. 85°. Elev. 3,920'.			A snow-peak bears 300°; hills 2 miles to right rise very abruptly out of the plain; snow still lies on the higher summits of the back ranges. Halt 45 minutes. <i>N.B.</i> —I rode on in front of carts.
	5-30				Ruined mud fort and belt of trees; several small streams.
					Ruined village. A narrow unoccupied oasis; fine timber 15 inches to 3 feet in diameter; thousands of mosquitoes.
	6-30				Unoccupied oasis (strip.)
	7-15				A waste held by myriads of mosquitoes; horse literally covered; he lay down to get rid of them, as he did once before on account of bees. The Mongol ponies seem to do this naturally instead of bolting.
	7-40				Small stream; trees; could be turned into an oasis, and apparently was one once.
	9-15				Two enclosures Cross plentiful streams; one, 100 feet wide; pebbly bed.
	9-45				Road over heavy sand for the last hour.
9	10-10	CHINZI-KURZA	72	707	8½ hours; called 100 li.
		Bar. 26'3". Elev. 3,550'.			
9	28th.	CHINZA-KURZA . . .	...	707	Oasis; well watered, consisting of 20 to 30 huts; a few shops; moist clay soil; small mud fort.
	A.M. 4-25	Bar. 26'3". Temp. 70°			Through high grass and an untilled oasis; swarms of mosquitoes; road winds.

ROUTE NO. 7—concluded.

No. of Stage.	Time.	Names of Villages, Towns, Rivers, & c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	A.M. 5-45				Hills at 3 to 4 miles from the village make a loop, and are here 10 miles off to the right; flat to left; good soil, probably rendered valueless by mosquitoes; good grazing in places; much thatching grass; if cut, and ground tilled, mosquitoes might go; soil becomes sandy.
few Mongol	6-15				The chief streams feeding the Bagratch lake rise in Ta-cheng (large spring), 90 li from Wo-ho-bo-la; its waters are fresh; its vicinity is occupied by a families. Cloudy day. Rain sprinkles at times.
	6-25				Efflorescence on soil in places. There are low hills on line, 130°, and round to front, from 20 to 30 miles off. Too dim to see north of 130°.
	6-40				The reedy grass 2 feet high, and reeds abundant. Very winding road.
	7-25				Winding amongst sand-hillocks, covered with tamarisk; impossible to follow its direction.
	8-35				Ruined hut.
	9-25	Bar. 26.4." Temp. 82°. Elev. 3,450'.	Halt 25 minutes.		Plenty of snow on inner ranges of the Tien-shan. Flies take place of mosquitoes; why?
	10-15				Canal; scattered farmsteads.
	10-30				Canal.
	10-50				Canal. This oasis is but poorly cultivated. Ruins occur; cross many canals; hills to right 12 to 15 miles off.
	11-15				Plain becomes grassy as the town is neared.
	11-30				Farmstead. Camels not seen as yet on this side of the hills; donkeys only and a few carts seen; the poppy, white and red thrives; and is extensively cultivated; also at Ush-taba.
10	11-45	KARASHAHAR	60	767	8½ hours; called 90 li; east gate; skirt the town to reach suburb beyond south wall; bazár of several streets; low shops constructed of mud, with flat roofs; few mosquitoes and flies comparatively; the track held by the former in force is well marked.
		Bar. 26.38". Large Bar. 26.58". Temp. 77°. Elev. 3,450'.	Opium costs 19 taels silver for 100 opium taels' weight. Flour 1 tael for 100 cattles. Indian tea is not sold; a few pounds of it were seen at Tok-sun. Local cottons from Uksu, 20 feet long and about 1 foot 2 inches broad, cost a little over ¼ tael. English cottons from Kwei-wha-cheng cost 5 taels the roll, 100 feet by 2 feet 8 inches. Russian cottons, 30 feet long, 1½ feet broad, cost 1½ taels. Woollen goods, none. Wool not locally produced. Cotton comes from Kuchar (not a local produce).		
					People here very curious and troublesome; small boys make the inn-yard their playground. Apricots of poor flavour; Russian loaf-sugar costs 470 cash the cattie; cash 1,800 to the tael.
					The Karashahar oasis is chiefly a grazing one; very little agriculture compared to its extent; very few trees. Those to the east, unoccupied, afford good timber, the only good timber for many a long mile.

ROUTE NO. 8.

JUNE

Karashahar to Aksu.

1887.

No of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	29th June.	KARASHAHAR . .			Military Mandarin called late at night. Cartmen delayed, so I went this morning to return his call and to complain; found him asleep at 7-30 A.M. Efu remarked that Chinamen slept late after eating opium all night; "no sleep proper like Englishmen"; got two men, however, to talk to carters, and say what I dictated. The town lies on the left bank of the Karashahar river; river about 500 yards wide; current sluggish; water, yellow in colour and loaded with silt; average depth 3 feet; took us from 20 to 25 minutes to pole over; 3 ferry-boats, 40 feet long; flat-bottomed; hold 20 donkeys, or 12 ponies or 2 carts and 4 ponies. Direction 285°. Temp. of water 63°; higher than I expected, considering it is under 40 miles to the foot of the indentation in hills from whence it issues; probably the snows have not yet commenced to melt rapidly; banks, composed of sand and clay, 2 feet over present level of river.
					<i>Refer to Kostenko's "Turkistan Region" for other notes on this route.</i>
	A.M. 9-15	Bar. 26.4". Temp. 89° in holsters. KARASHAHAR . .			Islands in the river covered with grass; banks grassy, and afford good grazing. Mongol kabitkas pitched along it. Horses ford the river without loads opposite the kabitkas. Leave right bank over a grassy plain by clayey track; a branch stream (with us) to left.
	9-43	Flies and mosquitoes very distressing; road winds through 20° on either side.			
	10-5	Hills 30 miles off to left, 20 miles to right.			
	10-40	Small canal.			
	11-0	Canal, farmstead, and domed structure or ziarat. Are there ruins in line 170° 1 mile off?			
	11-50	Large mound.			
	11-55	Small canal.			
	12-0	Large mound and ruined fort of about 100 yards side, with small corner bastions (circular).			
	P.M. 12-10	SI-SHIH-LI-CHING . .			Small village. Inhabited by Mongols.
	12-25	Road, a 1-line track; sunk 2 to 4 feet; more tamarisk than grass now grows.			
	1-0	The road winds amidst sand-hills which cover the plain.			
	2-40	Road still generally very winding and difficult to trace. All Mongols about here. "See Part I."			

ROUTE NO. 8—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	P.M. 3-0	SZUINI-CHENZA .	42	42	A few inns; small spring; a terrible nest of mosquitoes. Notwithstanding the heat I sit over a dung fire so that the smoke may keep them off whilst breakfasting. Inn in ruins.
	A.M. 5-0				Re-start. I ride on ahead. Soil barren and covered with efflorescence. Wind among sand-hills; generally a heavy, sandy-track.
	6-24				A gentle descent began about 5-30; flat to that.
	6-47	Bar. 26.32". Temp. 73°			Very high wind after an attempt at rain; still amidst the low sand-hills fronting the range ahead.
					Several ponds indicate heavy rain.
	7-40				Tomb enclosure. The road now skirts the river (Konchek or Karashahar), from 30 to 100 feet wide, deep, and flowing in a deep bed.
	8-0				Outcrops of coal occur in the pass at the entrance of the Kuruk-tágh range; a few huts.
	8-25				The road is a broad ledge along right bank of the rapid and clear stream, from 100 to 150 feet wide. Mosquitoes very distressing. My horse quite overcome by them. Ravine 300 feet wide. Hills rocky and barren.
	8-35				Halt for carts 35 minutes; the ravine opens out to the left into a sandy valley. A few tunnels only were seen driven into the hill-side for coal. Again free of mosquitoes.
	9-22				Pass through walled custom-house, built in a narrow part of the ravine. Station surrounded by a mud wall with 2 gates.
	9-35	KHARMANTAI .			Road becomes narrower; a 1-, and at times a 2-line track.
	10-20	LI-SHUEN-ZA .			A small settlement of a few families beyond the river here said to be roughly bridged.
	10-40				Leave the river to rise, and descend steeply over a spur.
	11-0				River again struck; it is now a rapid and broad torrent, flowing over boulders, &c. Hill-sides all along steep and high; for some distance the road is undulating, stony, and very difficult for carts; some of the inclines very steep; 4.
	P.M. 12-10				The road gradually leaves the hills and enters the cultivation and tree growth of the fertile oasis of Khur.
	12-30				Arrive in suburb of Khur, fronting its south wall; poor inn and poor huts.
1	...	KHUR or KORLIA .	56	98	Seven hours; called 140 li from Karashahar.

ROUTE NO. 8—*continued.*

No of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	

To Tashtou 90 li. No water for animals; water in the winter time only, and then available as a stage.

1	30th. A.M. 6-0	KHUR Bar. 26·7". Large Bar. 26·9". Elev. 3,100'.	...	98	(See Part I.)
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Population—2,000 Chentu, 50 Whei-whei, and 10 Chinese families.

The suburb is a small one, and these numbers must apply to the native town as well. The Chinese city almost empty.

Garrison—25 cavalry soldiers (Mongols); officers, Chinese.

A Mandarin of low grade (Wang) here; 30 shops outside the town. The river is only known as coming from Karashahar, and has no name. The hills are talked of as Khár-man-kou—Kharmentai.

The town is surrounded by a mud wall, without rampart to south wall, with bastion defences at gates on south side, and centre of the other sides and angles; it is from 15 to 18 feet high, fronted by a broad covered way and mud wall. The moat is from 15 to 30 feet top width, and if cleared out about 15 feet deep; v-shaped. Town occupied by the soldiers only; has sides of from 300 and 400 yards (about). The native town lies beyond the river with a side of 900 to 1,000 yards. Apples here very small, and of poor quality; also apricots; poor flavour. Altogether the pass through the hills is a picturesque one, and very defensible. Military Mandarin called; a pleasant Chinaman; he said you could get to Ili through the hills in 5 days; grass abounds there. The Mongol ponies in use here come from these hills, and are of a fine stamp; stouter, but of less height than the Ili pony; said to be wild men there. The route to Khoten, Lob-nor, Sanju, is not now used; said that bad men stopped it. The Chinese say that the Lob-nor waters flow under the sand and issue again near Sanju, at Palikun (Barkul), and that they also find their way to the sea by the Yellow River!

The road beyond the river at Khur (wooden bridge) leads to Laoching, an old Chentu town, 5 li off. It has (in the town and vicinity) 8,000 families.

	7-30	Start. Wind through shady lanes; track, a sandy one, bordered by willows, poplars, and mulberry trees; the fruit of the latter white, just ripening.			
	7-50	The oasis is well watered and cultivated, and extends to the hills.			
	8-2	Cross 2 rapid hill streams, 30 feet broad and 2 feet deep.			
	8-12	Along the gravelly skirts of the hill, leaving the oasis to the left, which has the appearance of a corn-field.			
	8-25	Back angle over pass 126° (P).			
	9-7	Hills to the right are brown, barren, and rise abruptly and steeply; clayey in appearance.			
2	12=0	DAWAN Bar. 26·7". Large Bar. 26·9". Temp. 82°. Elev. 3,100'. Temp. 83°.	32	120	On the skirts of the oasis; 4½ hours; cloudless and airless day. Water from small canal. Families 2 or 3; well in inn-yard. The oasis here is at least 5 miles deep as far as seen. Indian corn largely grown in the district, and

is the chief grain given to horses.

ROUTE NO. 8—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
2	1st July. A.M.	DAWAN . . .	...	120	The oasis extends a mile or two beyond Dawan; track easy.
	1-0	Start.			
	2-0	A sandy waste is entered; road heavy; still skirting the hills to right; a plain extends to the left; barren as far as useful vegetation is concerned.			
	4-15	Bar. 26.65". Temp. 70°.	Cloudy day; wind at times from uncertain directions with storms of dust.		
	6-5	Road becomes stony.			
	6-45	Ruined hut and shed. Wilderness of sand. Efu's verdict on Sin-kiang, "no belong very good place," is certainly, in its desert portions, a most just one.			
	7-55	Road very heavy and sandy; the coralline shrub (low saxaul?) plentifully covers the plain, each topping a small sand-mound.			
	9-5	Wind amidst sand-hills. Tograk trees occur; they give firewood, but poor as timber, growing up to a height of 25 feet, 1 to 2 feet in diameter. Tamarisk also grows.			
	10-30	Small stream. Escort dressed in blouses edged with red. (See sketch No. 61.)			
	11-0	Stony road.			
3	11-27 P.M.	Bar. 26.68". Temp. 92°.	Hot and airless. Mosquitoes ceased to be a pest on this side of the pass,—i.e., at Khur.		
	12-15	CHERCHU . . .	82	202	Small village; cultivation and trees; 11½ hours.
	Sun's glare is very great. Hill streams water the small oasis.				
		Bar. 26.62". Large Bar. 26.8". Temp. 83°. Elev. 3,200'.	(This is the in-door mid-day temperature.) Very sultry and oppressive weather.		
Population—30 Chentu and 2 or 3 Whei-whei families.					
We suffered so much from the glare and heat that we have to take to night-marching. Find no difficulty in surveying by guiding stars and directions taken to them from time to time.					
3	2nd. P.M. 9-0	CHERCHU . . .	...	202	Start. Very narrow belt of cultivation, 1 mile broad. Road over the plain at the foot of the hills.
	9-15	Through sand-hillocks; a tamarisk growth, &c.			
	10-16	Skirt a wood (open) and through it.			
	10-50	The plain is plentifully covered with the coralline shrub.			
	11-30	A togtrak wood; road sandy.			

ROUTE NO. 8—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate	Total.	
	2nd July. A.M. 4-30	Road both stony and sandy; here stony.			
	4-50	Bar. 26°55". Temp. 73°. Elev. 3,250'.			Tograk trees occur at intervals; all along, track difficult for carts; crowds of mosquitoes, but they do not settle down upon the horses as before.
	6-0	YEH-IN-GO . . .	62	264	Village. Small stream flowing from right to left. Very few streams flow from the hills; a subsidiary range must cut off this track from the snowy range; they are, as a rule, muddy. Wheat 2 and 3 feet high. Vegetables, &c., plentifully grown. The village is a double line of small, low, mud huts, inhabited by 50 Chentu families; 9 hours, called 90 li. Halt 15 minutes and then proceed through cultivation.
	6-35	Plentiful stream, 20 feet wide. This oasis is capable of extension; through a thick tamarisk growth; soil, sandy clay.			
	6-53	Through an open tograk wood; at times water from the hills seems to stream over this stretch.			
	7-5	A flat to left, well covered with tamarisk, &c. Tograk trees in patches.			
	7-30	Could cut planks, 10 feet by 1 foot, out of the best of these trees; wood, however, said to be very brittle. A very slow pace. To this from the village is 12 li.			
	9-0	Wood thicker here, and sand-hills give cover and limit view. <i>Chi</i> grass becomes plentiful.			
	9-30	Unreclaimed oasis growing <i>chi</i> grass.			
	9-55	Cultivation commences; small stream; rice, wheat, Indian corn, &c.			
4	10-25	CHEDIR . . .	30	294	Four hours.
	P.M. 2-0	Bar. 25°575". Large Bar. 25°8". Temp. 83° (in-door, mid-day Temp.) Elev. 4,300'.			The winding nature of the road only allowed general lines to be taken; it is over a plain covered with low bush vegetation and open tograk woods. Track either stony or sandy. The grass land could be reclaimed and added to the oasis, which is a rich one, and plentifully watered by muddy streams from the hills; 20 Chentu families here. A line 265° skirts the hills.
4	2nd. P.M. 7-35	CHEDIR . . .	...	294	Through cultivation; small stream. Cultivation here only half a mile deep.
	A.M. 7-50	Small stream.			
	8-0	Small stream. These streams come from the snows within 30 miles, and yet are muddy and hot. Grass replaces cultivation.			
		The ponies of the Mongol escort (2 or 3 men) with us come from Kashgar, and cost 12 taels each.			

ROUTE NO. 8—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	P. M. 8-20	Over the plain as before, covered with shrubs, with tograk woods at intervals. The oasis might be extended in this direction.			
	8-35	Small stream; bad, clayey road.			
	9-0	Through a wood; moist soil.			
	9-35	Dusty, rutty track, over a sandy clay soil, well covered with bush.			
	10-30	Grass grows.			
	11-15	Some fine snow-peaks seen to the right; grass.			
	11-30	Water from the hills has recently streamed over this country.			
	3rd July. A. M. 12-40	Small canal and farmstead.			
	12-50	Irrigation canals.			
	2-0	Village and river. River 300 to 400 yards wide; rapid, full stream. Halt 15 minutes.			
5	2-30	YANGI-SAR . . .	50	344	Large village; 6½ hours.
Population—800 Chentu and 5 Chinese families; P the population of the oasis. The stream is bridged (wooden), and traverses the village.					
	3rd. P. M. 6-0	Cross a stream, 30 feet wide, in bed 100 feet wide, by substantial pile bridge; road, leading into and out of village, lined by trees (willows).			
	6-10	The cultivation looks to extend to 2 to 3 miles to the left, and to 1 to 2 miles to the right; farmsteads are dotted over it. The hills fronting the snows are more broken than hitherto; in colour red, yellow, and brown.			
	6-15	Bar. 26.46". Temp. 74°.			Wheat reaches a height of from 2½ to 3 feet and over; it is largely grown; poppies also. The hills are from 7 to 8 miles off to the right; good grass
abounds; a pleasant oasis, and few mosquitoes; a few cows and sheep seen; pheasants heard.					
	6-55	Met 3 carts carrying country cotton cloth from Kashgar to Umiotza.			
	7-5	Large ruined enclosure.			
	7-15	Halt 5 minutes. Taking the oasis to be 5 × 5 = 25 square miles, and to be occupied by 800 families or 5,000 souls, we have a population of 200 to the square mile. This seems an average population for these oases, as much land lies fallow and much waste. Cultivation ceases; tamarisk, <i>chi</i> , &c., grows. The oasis might be extended, and probably this grass land was all cultivated once.			

ROUTE NO. 8—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	P.M.				
	7-55	Over a plain covered with <i>chi</i> and tamarisk growth; clayey moist soil.			
	9-5	Heavy clay.			
	9-15	Efflorescence on soil, but it grows <i>chi</i> well.			
	10-15	Bed of stream 100 feet broad, and soon afterwards another; there are many such, but all practically dry. The shallow ones very saline. <i>Chi</i> still grows sparsely, otherwise all barren; soft, sandy, clay soil.			
	A.M.				
	12-16	A bad tract over a saline plain. The blessing of this country is the few Chinamen in it.			
	1-0	The plain again covered with <i>chi</i> .			
		Bar. 26'6". Temp. 90° in air and 100° in holsters. Elev. 3,220'.			
	1-45	Pile bridge, over muddy stream, in bed sunk 15 feet.			
	2-5	Cultivation commences; causeway (200 yards) and culverts over stream 150 feet wide, having 50 feet of water in it; rapid and muddy; 4 flat spans; triangular abutments of wood, up stream.			
	2-30	Water plentiful, but much land lies waste and unreclaimed. Fine wheat and poppies; willows line the road from the river. Chentu women do not veil, and work in the fields.			
6	2-45	BUGUR	62	406	Village. Copious canal. 8½ hours. Generally a heavy and bad road.
		Bar. 26'5". Large Bar. 26'78". Temp. 81° (in-doors). Elev. 3,340'.			No mosquitoes during the march. A thunder-storm and few drops of rain fell about 9 P.M. Bright moon.
Population—1,500 Chentu, 15 Whei-whei, and 8 Chinese families.					
Garrison—20 (13) cavalry soldiers from Si-nan-fu; no mosquitoes here.					
The Chun-bar-kai-khor river is 20 li off, and San-khow lake is 5 li off.					
6	P.M.				
	10-0	BUGUR . . . . .	...	406	Through cultivation as before.
	10-20	Cultivation ceases to left; the road to this well kept; culverts where necessary; lined by fine willows, &c.; room for reclamation.			
	10-50	Cultivation in patches; much waste land.			
	11-0	Canals; again cultivation on either hand; farmsteads dotted over it; the oasis does not extend far to the left.			
	11-35	Village.			

ROUTE NO. 8—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	P.M. 11-45				The road through the oasis generally formed and good; embanked where necessary, and with wooden culverts; sma'l streams and canals numerous.
	11-50 4th July. A.M. 12-30				Small village. Fine trees abound here. Villages dotted. Village. Canal.
	12-45	CHUN-BAI-KAI-KHOR			Rapid river, 200 to 300 yards wide, 2 feet deep in places; difficult to ford; gravelly bed; low banks (2 feet); piloted over by a Chentu on a bullock.
	1-25				Villages still dotted over the oasis, all with fine trees, poplars, willows, &c.
	2-5				Village.
	2-30				Leave oasis.
	3-0				Over a stony waste, gravelly and difficult for carts; the skirts of the snowy range, 20 miles off, to the right. The rise in the temperature on passing from the oasis to the stony waste was very apparent; night temperature cool.
	6-0				Small stream (fresh).
7	9-0	YANGI-ÁBÁD . . .	77	483	Oasis; 11 hours. Bugur contained but a few houses, and a small mud fort and enclosure. In angi-Yábád there are a few shops; as a rule, the villages are small, and without shops. Water from very muddy canals and streams.
		Bar. 26°45'. Large Bar. 26°68." Elev. 3,400'.			Two hundred and seventy Chentu families occupy the oasis. Kuropatkin's description of this stage seems incorrect. The Bugur oasis may be 12 × 5 = 60 square miles; a good deal of it is, however, still underbush. Its population consists of 1,500 families, × 6 = 9,000 souls, or about 200 to the cultivated square mile as before. Room for reclamation.
7	P.M. 7-0	YANGI-ÁBÁD . . .	...	483	Start. Corn ripening, and of excellent quality and size. The poplars are high and branching, and of a very dark green. The oasis does not exceed 3 or 4 miles × 1 mile. Indian corn 6' feet high. Every day the sky is more or less clouded over, and it rarely passes without a storm of wind.
					The ponies of the two mounted escort are from Kashgar, and cost from 6 to 8 taels each. Oasis now ceases, and the road traverses a sandy clay, or sandy and gravelly plain, growing tamarisk, &c. Low hills seen 2 miles to the right. Snow-peaks from 20 to 30 miles off, of irregular heights, and much broken into cones. They give one no idea of great height; the near peaks are but thinly clad with suow; all rocky and barren. (See sketch No. 62.)
					The coralline plant alone now grows, and very sparsely covers the plain.
	5th July. A.M. 12-0				Sand-hills to the left.
	12-20				Amidst sand-hills.

ROUTE NO. 8—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	A.M.				
	5-0	Sand-hills of red clay, covered with tamarisk growth. Now crowds of mosquitoes.			
	5-40	Bar. 26.25". Temp. 79°. Elev. 3,600'.			
	5-55	Over a stony waste. Some of the Chentu women simply wear a circular handkerchief tied tightly round the head, and falling behind; others wear fur hats of a dark-brown colour (like seal-skin); pyjama's and blouse tied round the waist; the latter generally part red, which is a favourite colour; they have the Mongol class of face, <i>i.e.</i> , round and bloated; but not so the men, who generally have thin faces and features. The Chentu know themselves as "Hassan;" they all ride either donkeys or ponies; women then wear top-boots. Many of the boys are good-looking, slim, with olive complexions, acquiline features, fair eyes, and brown hair.			
	6-30	The low hills to the right are from 3 to 4 miles off; a tangent to them bears 278°. The trees of the oasis extend to 205°. Sky obscured by leaden clouds, high wind from the hills; a few drops of rain. The difference of temperature between the oasis and the desert, &c., must cause currents of air. The oasis to be entered is about 4 miles broad, and well wooded with dark-green branching poplars, &c.; the ripening corn gives it a yellow look; soil red clay, or sandy clay. (Sketch No. 62 (a) shows terminals of the Tien-shan.)			
	7-20	Enter oasis; willows and aspen line the road.			
	7-30	Farmsteads dotted.			
	7-45	Inn; streams muddy as usual.			
8		YAKA-ARIK . . . Bar. 26.25". Large Bar. 26.5". Temp. 78°. Elev. 3,600'.	87	570	12 $\frac{3}{4}$ hours. A decent inn; many of the inns have an outer yard—a pleasant thing after a long night's march, as it enables a traveller to repose quietly in the inner court. Fifty Chentu families here (this
					must be village alone). Windy and cloudy all day; no sun. Several inns in the village; supplies.
	P.M.				
8	7-55	YAKA-ARIK . . .	...	570	Good road through cultivation. Start.
	8-2	A few sheep and goats. Capital milk, cream, and curds in these villages. Eggs plentiful, and also fowls, but no other sort of meat. Villages dotted at close intervals. No large stream waters the oasis.			
	8-45	Cross the bed of a dry water-course, 100 yards wide; canals plentiful; oasis only part occupied.			
	9-0	Oasis ends; over a waste of sand and gravel.			
	10-10	Village. Small stream; narrow oasis and village.			
	10-22	Small stream, and oasis plentifully watered.			
	10-30	Oasis ceases.			
	10-40	Over a waste of sand and gravel. End of the hills seen yesterday 3 to 4 miles off to the right.			

ROUTE NO. 8—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	6th. A.M.				
	12-0	Stream; clump of trees, zîrat and enclosure; pace of carts very slow; if unaccompanied, the carters sleep, mules stop and all rest.			
	1-45	Stream and oasis.			
	2-0	Leave oasis.			
	2-15	Again oasis of small width.			
	3-0	Cross a stream, 200 feet wide; no banks, gravelly bed, 2 feet deep in places; rapid current.			
	4-0	Enter cultivation of Kuchar.			
	4-20	A smart shower of rain. Down broad road, lined by houses, graveyards, plantations, &c. Houses with narrow and low doors; huts low, with flat roofs.			
	4-50	Pass through the wall, which is 10 feet thick at the top, with banquette.			
	4-55	Pass through a similar wall, and at 5 o'clock, gradually veering round, enter the south gate of the town of Kuchar, 100 feet deep; suburb road lined by houses.			
9		KUCHAR . . .	60	630	8½ hours. (See Part I.)
		Bar. 26'2". Large Bar. 26'45". Temp. 74°. Elev. 3,600'.			
		Huts, gardens, graves, walls, and ditches give cover close up to wall on all sides. Few shops in the new city, and a few huts only. The Mandarin here is a Fu. A Chentu Wang lives in the vicinity. There is said to be coal in the hills; saw a specimen of petrified wood. Streams of red mud supply the populace with drink; it is led in open channels through the streets, and used for all purposes, ablutions included. All the shops are of a poor class. (See sketches Nos. 63, 64, 65.)			
9	P.M. 7-30	KUCHAR . . .	...	630	Leaving by the north gate leave a mud fort of 150 yards side to the left, and through gardens of fruit trees, vegetables, &c., walls and graveyards.
	7-35	A broad highway. The oasis extends for miles to the right; its vegetation is extremely luxuriant.			
	7-58	Hills seen end on line 252°; oasis ceases.			
		It is pleasant to see a good-looking woman after that distressingly hideous deformity of her sex, the Chinese woman. The women here seem to develop early, and to have large families. Willows, mulberry, and dark-green poplars line the road; mostly young trees. This is noticeable throughout Kashgaria; few trees are of any age.			
	8-15	Small stream. Road sandy, becomes by degrees gravelly as the hills are neared.			
		Bar. 26'1". Temp. 73°. Elev. 3,700'.			Storm in the east.

ROUTE NO. 8—continued.

No of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	P M.				
	8-47				Over the barren, sandy, and shingly skirts of the low hills ahead.
	9-15				Halt 30 minutes for carts. (I started ahead.)
	10-0	Bar. 26°0"			Top of the ridge. Descend a dry ravine, 100 yards wide.
	10-15				Heavy road.
	11-18	Bar. 25°95"			
	7th.				
	A.M.				
	12-0				Ravine 300 yards wide; rocky sides, much water-worn. The Chentus have plenty of donkeys and ponies; none walk. They seem a happy race.
	12-5				Sand moist; water must be close to the surface. Small stream (saline); ravine narrows to 50 yards.
	12-25				This ravine, like all others traversed, has a broad level bed, evidently a filling in of sand and gravel.
	12-40				Hut and enclosure. Custom-house.
	1-0	Bar. 25°75"			
	3-40				Enclosure and inn. No water, or very brackish.
	3-46				Heavy, sandy track; ravine widens.
	3-51	Bar. 25°4". Temp. 60°.			Cold and sharp air.
	4-18				The hills passed through are of indurated sand, some of considerable height.
	4-25	Bar. 25°3"			Ravine 100 feet wide.
	4-34				Ravine here is 20 feet wide; cliffs of sand from 10 to 20 feet high.
	5-4				The Chinese escort of cavalry (3 men) wear white blouses with green border. The men are a miserable-looking lot and opium-smokers.
	5-20				Ascend $\frac{1}{10}$, $\frac{1}{16}$, over hill; very gentle rise to this. We have passed through a sea of low sand-hills, formed by water action on a level bed of deep sand.
	5-32	Bar. 24°85". Temp. 55°. Elev. 5,000'.			Enclosure. Descend. (See sketch No. 66.)
	5-40				Wind down over a gravelly slope cut up by water action; 246° leads to edge of the cultivation; for the next few stages we traverse the broad, flat, partially cultivated valley seen before us, lying between angles of 244° and 255'. Halt 30 minutes.
	6-20				Snowy range 10 miles off to the right; low range 3 miles off to the left; indurated sand-hills front the former.

ROUTE NO. 8—*continued.*

No of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	P.M. 12-40	Chinese li mark. This is the first of such talismanic structures seen in Kashgaria!			
10	12-45	KHWORDZA . . .	110	740	16½ hours; called 180 li. Bar. 25'86". Large Bar. 26'12". Temp. 85°. Elev. 3,950'.
	9-0	Village.			
	9-5	Leave oasis; track over a gravelly waste; hills from 3 to 4 miles off to the left, and 8 to 10 miles off to the right.			
	9-40	Stream. Clump of trees; the oasis keeps along main longitudinal stream to the left.			
	9-45	Clump of trees; small stream.			
	10-15	Trees, &c. Oasis.			
	10-30	Road lined by trees, 40 feet broad; soil, clay. Road generally heavy over sand or gravel.			
	10-50	Fine poplars; farmstead; oasis ends; pass over a clay saline soil; ruddy road.			
	8th. A.M. 12-45	Oasis and fine trees.			
	1-0	SILIMOU . . .			Large village. There are said to be 4,000 families in the oasis, and 7,000 in the Kuchar district.
	4-15	Through cultivation; good road, 40 feet wide, lined by trees; the general nature of the road is such at intervals.			
	4-25	The oasis looks to be from 6 to 10 miles broad; fine corn-fields; villages dotted over it; very fine dark-green poplars. Indian corn is largely grown, present height about 6 inches.			
	5-5	Low hills from 3 to 4 miles off to the left, and 10 to 12 miles off to the right. Oasis nearly occupies the whole; some fine cows.			

ROUTE NO. 8—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	A.M.				
	5-20	The oasis is well watered by canals and streams.			
	5-30	Temp. of sharp morning air 54°; it numbs one's fingers.			
	5-40	Bar. 25'86". Elev. 3,950'.			
	6-0	A strip of barren or poorly cultivated land.			
	8-0	KHWOR-SAI (?)			Small village. Fair cultivation, but not so rich as before; fine fields of corn; trees line the road, which is 40 feet wide. Halt 10 minutes.
	9-30	Cross several streams and a broad river bed.			
	10-0	Temp. in the shade 82°; cloudless and airless; zírats numerous; also beggars.			
	10-45	Many Chentus riding into town; some ride bullocks, all bestride some beast.			
	11-22	Through rich cultivation; many mulberry trees line the road, besides aspen, willows, poplars, &c. Large graveyard.			
	P.M.				
	12-25	Cross the river bed, which is 2½ feet deep; rapid current, and has 30 feet of water in it. High, irregular right bank, lined by houses, shops, &c.			
	12-30	Through suburb; time 13 hours.			
II	12-40	BAI-CHENG . . .	90	830	Two mud camps, of about 150 yards side, and large inns. The town lay away to the right as we crossed the river; it is called a bazár; water very muddy; quite undrinkable. Fifty cavalry here.
		Bar. 25'72". Large Bar. 26'05". Temp. 80". Elev. 4,050'.			
		SHAKH-YAR IS 120 li off. (? Shah-yar.) (See map and Part I.)			
II	8th.	BAI-CHENG . . .	...	830	There is a Chi-hsien Mandarin at Bai, as well as a Military Mandarin; the former is the Civil Mandarin, and has under him Chentu police, two of whom accompany us.
	P.M.				
	9-40	Start; through cultivation.			
	10-10	River; 300 feet of water in it; from 1 to 2 feet deep; rapid current.			
	10-30	Cultivation becomes less general.			
	10-30	Second river.			
	10-50	Third large river. All these rivers have rapid currents; the depth does not exceed 2 feet; low banks of shingle, or none at all.			
	11-0	Fourth large river. Still patches of cultivation.			

ROUTE No. 8—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	P.M. 11-6				Over river; cultivation; the river has no banks; pebbly bottom; rapid current, and from 1 to 2 feet deep. Road lined by trees.
	11-25				Through cultivation; clay soil; good road, 40 feet wide.
	11-30				Sixth river; all run in wide shallow beds, and are feeders of the Shakh-yar stream.
	11-35				Corn-fields.
	9th. A.M. 12-0				Fields well irrigated; trees along the road; of 3 to 4 years' growth.
	12-15				Over a waste of gravel and sand.
	12-45				River 100 feet wide; all flow from right to left.
	1-0				Village and oasis (small one); cross many streams.
	2-25				The barking of dogs shows that there are villages, and cultivation to left under the hills.
	3-50				Oasis.
	4-30				Trees line the road, which is 100 feet wide; clay track.
	4-40				Leave oasis.
	5-0				Cultivation; all green; grass, corn, &c.
	5-10				Hills 5 miles off to the left, 6 miles to the right; oasis between; good grazing.
	5-30				Inn; called by the Chinese Chemeliti. This name not known to the Chentus. Halt 10 minutes. There were 4 or 5 carts in the inn-yard; horses of good stamp, larger than yet seen; skirt a river bed, half a mile broad; banks from 6 to 8 feet high; flock of sheep and goats; cows grazing.
	7-10				Rapid stream to the left, with from 100 to 200 feet of water in it.
	7-15				Ford the river; the guides live on the bank. Halt 30 minutes.
		MOYOR RIVER, <i>i.e.</i> , MUSART or TUNG- CHANG-KHOR.			River; 200 feet of rapid and 200 feet of moderate current; up to a man's waist; skirt right bank of the river; ground covered with <i>chi</i> grass, &c., might be reclaimed.
	9-25				The river valley runs up for 30 miles; broad, with villages dotted over it; a rich agricultural scene. There are some very fine clumps of trees furnishing timber.
	9-45				The line up valley bears 275°; we are 3 miles to the right of end of range seen from 6 A.M. on 7th July; it here sinks, and road leads (220°) over it.
12	10-30	CHARKI	96	926	12 hours. We should have stopped at Chemeliti, but our escort (?) could not be found, so passed on.

ROUTE NO. 8—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
		Bar. 25'1". Large Bar. 25'4". Temp. 70°; take river as Bar. 25'5" (4,300'). Elev. 4,700'.			There are 40 Chentu families here. Throughout the past stage the country is abundantly watered; canals intersect it in all directions; there are some very fine clumps of trees in the Muzárt valley; also good grazing. Kuropatkin's account of the road, from Bai to Chemeliti, seems to vary so much from the above that he must have taken another (<i>Kostenko</i>); or much land has been reclaimed. Several tracks lead over the basin we are traversing. The river flowing under the hills bordering the valley to the left (<i>Shak-yar</i>) must be of size.
12	Evening. 9th. P.M. 10-0	CHARKI . . .	...	926	Ascend along the road, which is lined by trees; 40 feet broad as before; soil cultivated.
	10-30	Canal; pass into barren hills; heavy, sandy road.			
	11-30	A passage, 30 feet wide, between low hills, like a cutting; ascent gradual; heavy, sandy track.			
	11-45	Bar. 24'85" . . .	A winding track between low hills, 50 feet high.		
	10th. 12-15	Bar. 24'75" . . .	Steep descent, $\frac{1}{10}$, in parts rocky and uneven, from 20 to 30 feet wide; a good deal of westing made during descent. The road is a natural one; strange that always one is found over a range; perhaps others exist. (<i>See pages 147, 168, 170.</i>)		
	12-55	Pass widens to 100 yards.			
	1-23	Undulating			
	2-0	Small village. Small stream amidst the barren hills; road varies; sandy and stony.			
	A.M. 3-15	Over a sandy basin, between low hills. Thought I saw copper in hills near Charkhi.			
	4-10	Through low hills; track very sandy and heavy. These low hills very red in colour; yellow bands occur in them.			
	5-32	We traverse, as in all cases, a ravine filled in with sand or gravel; slow pace all along.			
	6-0	Hut and brackish spring (small)	52	978	Eight hours, 52 li. The Chentu men are tall, 5 feet 9 inches on an average, and well made; so
		are the women, who have fine hips, and are well developed; they develop early. Thunder, and a smart shower of rain; cloudy day.			
	8-45	Re-start. The hills are of indurated red clay and sand.			
	8-58	Some bands indicate copper; this district absolutely barren.			

ROUTE NO. 8—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	P.M. 9-20	Bar. 25°6". Temp. 70°. Elev. 4,200'.	The variation in the temperature between early morning and mid-day is over 40°; to-day very cool, almost cold; barren tracks are much warmer than the cultivated ones.		
	9-43	Heavy shower. Leave the pass and traverse a broad basin of coarse felspathic sand bordered by hills of clay in broad bands of red and greenish yellow. (See sketches 67, 68.)			
		The horses in the carts here are better than those further to the east; no mules in Chentu carts. All mud walling in this country is built, one layer of bricks on edge and one layer flat. (See sketch 69.)			
	1-30	Very few mosquitoes, and what there are, are mostly confined to the gravelly, sandy wastes.			
	2-5	Bar. 25°3". Temp. 100° in holsters and 85° in air. Elev. 4,500'.	Descend into a flat plain extending south, round to west, to foot of outliers from hills as far as the eye can reach. The plain does not look fertile, and is barren for some distance from the foot of the hills.		
	2-25	Halt 25 minutes, having walked on ahead of carts since 12-15. No mica in the sand.			
	3-0	Muddy stream; through tamarisk and grass cultivation. Much to be reclaimed; sandy clay soil; rich growth of bush.			
13	3-10	YURGUN . . .	45	1,021	6½ hours; called 90 li. Capital large inn.
		Bar. 25°65". Large Bar. 25°925". Temp. 95° in holsters and 78° in room.	Thirty Chentu families here. Families consist generally of 5 and 6 children; they multiply quickly, and must overflow their present limits, unless decimated by war or pestilence, and the latter should be impossible in this healthy country. Chentu (Turk)		
	girls marry at the age of 17 or 18 years. No money is paid by husbands; presents are given, and preparations made for the wife at his home. The Chentus and Whei-whei do not intermarry. A Chinaman will take either to wife, but the latter will not give their daughters to Chinamen. A China girl marries at 17 or 18 years; many have no families; contracting the feet weakens them. Opium-smoking destroys the vitality of the men. History is likely to repeat itself, and the people of Kashgaria to return to re-people Kansuh, if only a long interval of peace ensue.				
13	11th. A.M. 3-5	YURGUN . . . Elev. 4,150'.	...	1,023	Surface stream, 100 feet wide, and many canals water the oasis.
	3-15	Oasis and small village; over a plain covered with a thick growth of tamarisk; clayey soil. It soon becomes sandy, the road winding between sand-hills and tamarisk.			
	5-20	River; shallow, 100 yards bed; banks 10 feet high; red clay bottom; many mosquitoes; impossible to follow the windings of the road.			
	5-30	Ch replaces tamarisk; good pace; generally a good track; here clayey soil.			

ROUTE NO. 8—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M.				
	5-55	River bed sunk 15 feet, and 100 feet wide ; little water in it.			
	6-30	Bar. 25°71". Temp. 68°. Elev. 4,100'.	Cloudy and cool. Low hills, about 20 miles to the right ; behind them are masses of snow-peaks.		
	7-0	Cross a river bed, from 300 to 400 yards wide, sunk 10 feet, and almost dry ; 100 head of cattle.			
	7-15	Strike line of oasis at its upper part. Canals of red muddy water ; much land to be reclaimed from weeds.			
	7-30	MOTAI or JAM . . .	Village ; inn. Met about 50 donkeys, laden with Kashgar cotton goods, done up in felt, going east.		
One hundred and forty Chentu families here. Halt 30 minutes.					
	8-20	Cross broad bed of the river. Small stream ; grassy embanked road.			
	8-35	Sandy track. Stream 20 feet wide.			
	9-0	Much land lies waste ; farmsteads dotted at intervals of 1 and 2 miles. Plenty of sheep-grazing.			
	9-30	Few huts ; soil generally sandy.			
	10-0	Stream.			
	10-10	Stream. Very numerous canals			
	10-48	Stream.			
	11-0	Road embanked, 1 to 2 feet, crossing a river bed ; river shallow, and 100 feet wide. All streams loaded with red salt. Barren or uncultivated to the right, more or less, to the hills.			
	11-10	Hut and refreshments.			
	11-15	Halt by road-side till 1-15, <i>i.e.</i> , 2 hours, to breakfast.			
	P. M.				
	1-15	Re-start. Continue to traverse the oasis ; not so fertile as most.			
	1-30	ISHLOMCHI . . .	Village. Cross sandy bed of river, 600 yards wide. Small stream.		
Sometimes snow falls here, and some years none at all. Winters cold ; all streams freeze.					
	1-45	The road all along is generally 40 feet broad, lined by trees or shrubs ; soil generally poor and sandy, and much of it grows a thorn or other useless shrub. Farmsteads dotted.			
	2-12	Bar. 25°05". Temp. 95° in holsters and 85° in air. Elev. 4,750'.			
	2-20	Over a barren plain.			

ROUTE No. 8—concluded.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
14	P.M. 3-15	Inn and village oasis ; over a sandy waste.			
	4-15	Ruined village, half a mile to the right. Thunder-storm raging in the hills.			
	4-30	Through tombs till 5 o'clock. Tombs domed, some enclosed, and enclosures entered by gateways of Muhammadan design. First attempts at such seen. Kashgarian mosques are very poor specimens of architecture.			
	5-0	Steep descent to Aksu.			
		AKSU	96	1,119	Through a poor suburb, or rather what turns out to be the Chentu town of Aksu ; a fearful place of squalor and hot-bed of disease, especially, apparently, of small-pox. Cholera is rare. Goitre and eye disease are common. After winding through narrow streets, shut off into quarters by gates, reach the Chinese quarter, and a most filthy inn, full of flies, into which crowd after us measly specimens of Chinamen. From a level sandy plain the ground at Aksu becomes uneven, and the town lies in a hollow, surrounded by sandy clay cliffs, the sides of the ravine ; houses mount up their sides ; all are of clay, flat roofs, low, and entered by narrow doors ; a comparatively poor class of dwelling. (See Part I for details.)

ROUTE NO. 9.

Aksu to Kashgar.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 2-30	12th July. Bar. 25'95" and 26'3".			Temp. 73°. Elev. 3,750'.
	P.M. 3-15	Bar. 25'9."			Temp. 77°. Thousands of flies.
	6-25	Turk City of Aksu .			Start. The old Chinese town adjoins the Chentu town, and is surrounded by a low brick wall. It has now been abandoned for the new city, 22 li distant. Leaving the town, the road about 15 feet wide, and embanked from 1 to 2 feet, traverses rice-fields, gradually gaining the cliff, which is from 20 to 30 feet high, bordering the plain to the east.
	7-5	Under the cliff ; the road becomes broad and sandy, and at 7-15 o'clock			
	7-15	ascends on to the elevated ground, through a gully, 10 feet wide. Gradient $\frac{1}{10}$; tombs border the road for some distance, which now traverses a barren plain of a sandy clay soil, often hollow (3 feet to 5 feet).			

ROUTE No. 9—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 8-15				Again descend into the cultivated plain, and pass through gardens; huts and habitations increase as the city is approached, and give cover up to its walls.
I	9-0	Chinese City of AKSU Bar. 26°05". Elev. 3,700'.	22	22	(See Part I.)
I	13th. 4-45	YANGI-SHAHAR, AKSU	...	22	Day cloudy. The cavalry horses seen were well fitted for light cavalry.
	4-50				Leave the city; a large camp lies to the left hand, on elevated ground; surface of soil somewhat uneven. The road, from 20 to 25 feet wide, passes through cultivation; trees, shrubs, &c., give cover. The corn is 3 and 4 feet high, and ready to cut; all the trees are of recent growth; the soil is a fertile clay.
	5-0				Cross a bridge, 40 feet long, over a rapid stream, and skirt its right bank. The road has a general width of 30 feet, narrowing to 10 or 12 feet, at the rough culverts, of trees laid horizontally over the water-courses, which frequently cross the road.
	5-46				Saráf. The clay cliff is here 1 mile to the left, and about 15 feet high; and the country is flat to the low hills, 5 or 6 miles to the right. Rice is grown, and is 6 inches high.
	6-0				Strike the river, flowing in a shallow bed, and skirt its left bank; the banks are perpendicular in places, and 12 feet high; the bed is about 1,200 yards wide; cultivation extends down the stream as far as can be seen.
	6-55				Cross the River Janart (see Part I), flowing in several streams, 100 and 200 feet wide and 2 feet deep, with a rapid current, before reaching the main stream, which is 300 yards wide, and deep; ferry over in boats; horses swimming. There are two ferry-boats. Loads of apples and firewood were being taken across to the city. Cloudy day; fairly cool to 9 A.M. Apples only fit to cook.
	9-30				Crossing completed. Halt for 15 minutes.
	10-5				Farmstead. The road is sandy, over 50 feet broad, and lined by trees, chiefly willows and spreading poplars.
	10-15				Country barren; halt 20 minutes.
	10-55	BASHI			Small village. Country well watered; excellent cultivation and pasture; clumps of trees, and villages are dotted over it.
	11-40				Stream and mill.
	P.M. 12-50				Small village.
	1-15				The road skirts a meadow stream, 200 feet wide; excellent grazing.
	1-45				Cross the stream by a bridge or rather embankment with culverts, 150 to 200 feet long in all; culverts of trees laid horizontally. This is the character of all bridges in Kashgaria. Rough timber and earth piers in general use; primitive constructions. Lime must come from the hills if there.

ROUTE NO. 9—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 1-53	Country swampy.			
	2-10	A bridge, 25 feet long, over a stream. A large graveyard; halt 40 minutes to breakfast off bread and curds, by road-side, surrounded by villagers.			
	2-15	ICROW			Large village. Shops; contains over 500 families. The road, narrowing in places to one line, winds considerably, and traverses a well-wooded and cultivated country growing fine wheat. Country poorly occupied to what it should be; wheat being harvested.
	3-43	The low barren hills are from 6 to 8 miles to the right; the cultivation is slovenly; grass, weeds, and other grains growing amongst the wheat. The general character of the road is good over a clay soil, and through a well-wooded and cultivated or culturable oasis.			
2	5-0	SAI-ÁRIK	70	92	Village of 130 families; pace 8½ li an hour. The steep and barren hills are 3 miles to the right.
2	14th. 4-45	Bar. 26°25". Temp. 70° in holsters and 62° in the air. Elev. 3,500'.			Wheat is here extensively cultivated, and the grazing is good; soil, clay.
	5-30	The road is 30 feet broad, and lined by trees as heretofore. A few huts; the road now traverses a barren waste, and is heavy and sandy.			
		A line 230° limits the foot of the hills.			
	8-25	The plain is here saline, and covered with mounds; tamarisk grows in places sparsely.			
3		SHUR-KURDUK	53	145	Pace 8½ li the hour.
		Bar. 26°25". Large Bar. 26°5". Temp. in holsters 90°, in room 88°. Elev. 3,500'.			Water is obtained from wells; it is brackish, but cool, refreshing, and pleasanter to drink than the muddy waters of the rivers, streams, and canals.
3	P.M. 4-20	SHUR-KURDUK . . . . .	...	145	Re-starting the road skirts the hills which lie to the right, passing over a barren waste; the roots of the low shrubs covering the sand-hills give fuel along the route.
4	11-20	CHILIAN	56	201	Village; of 30 poor houses, with a little cultivation about it. Tamarisk plentiful. There is a mud fort, occupied by 2 soldiers; cloudy weather. The M.uralbashi district here begins; water from a pond. Pace 3 miles an hour.
4	15th. A.M. 5-30	CHILIAN . . . . .	...	201	The road continues to skirt the hills, crossing a barren, saline soil, covered sparsely with tamarisk. Weather hot and sultry.
		Bar. 26°05". Temp. 78°. Elev. 3,700'.			A few drops of rain.

ROUTE NO. 9—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 9-55	JAIDI	38	239	A few huts made use of by travellers; milk and curds are obtainable. Halt 45 minutes; heavy springs; a little <i>chi</i> grass grows about it.
	11-25 P.M. 12-45 1-45 3-0				Rain renders these roads very muddy and slippery. The hills are from 20 to 30 miles to the right, and are bare and snowless. The track is heavy and amidst sand-hills. Stumps of trees, and a few tograk trees. The trees thicken into an open wood; soil sandy; track heavy, and pace slow.
5	4-30	YAKA-KUDUK . . .	40	279	Pace 7 li the hour. A station of a few hovels amidst a growth of tamarisk and tograk trees. Bar. 26.26" and 26.5". Temp. 78° in room. Elev. 3,500'. Water from a pond. The road lay through a thick tograk forest, and is a heavy, sandy track.
5	16th. A.M. 2-30 4-30 5-0 5-50 6-40 6 50	YAKA-KUDUK . . .	...	239	Road hardens, and skirts ponds and a growth of reeds; during the day-time large flies distress the horses, and render night-marching necessary. Again a heavy, sandy track; the hills to the right look 40 miles off. Ruined hut. The road winds continuously. Pass through a tamarisk and low tree and shrub jungle. <i>Chi</i> grass grows at intervals along the route. A few huts and fields of wheat. The huts are mostly available as inns; the jungle now lessens; no stream. Halt 20 minutes. The heavy sandy track continues through a bush jungle of tamarisk and low trees; <i>chi</i> grass grazing is plentiful.
	8-45 10-10 P.M. 12-55	TUMSHUK . . .	46	325	Day hot and cloudless; the bush jungle ceases, and the track leads over sandy soil, between low sand-hills, covered with a growth of shrubs. Low hills cross our front; shade temperature 89°. <i>N.B.</i> —It felt damp and cold whilst passing through the forest. Village; 40 families of Turks. A slight shower in the evening; water indifferent from a pond; this stretch of country is almost streamless. Inns of good description at all desert and forest stations; no furniture.
6	12-55	TUMSHUK . . .	46	325	

ROUTE NO. 9—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.	
			Inter-mediate.	Total.		
6	17th. A.M.	TUMSHUK . . .			Take a westerly course till 2-40 A.M., when the north end of the hill on the 245° line is passed; the road then runs amidst low sand-hills to pass the end of another hill. The track is generally narrow. The hills passed are detached, steep, and barren. The road through the forest and amidst the sand-hills winds very much.	
	12-50					
	4-20	A tograk wood; <i>chi</i> grass grazing becomes plentiful under the hill.				
	5-0	Bar. 26'15". Temp. at sunrise 70°.				There are a few detached hills to the right.
	5-10	Hut and refreshments under the hill; grove and shrine on the hill top. The villages along the line are chiefly to supply the wants of the road traffic, i.e., grass, milk, straw, &c.; the carters carry their own corn (Indian). Refer to Report of Yarkand Mission, 1873, for further details.				
	5-43	Halt 20 minutes. The <i>chi</i> grass is cut and stacked. The hills are of indurated clay, with layers of flint, at steep angles.				
	5-55	Over a plain of <i>chi</i> and tamarisk growth; detached hills occur 6 miles to the left.				
7	6-20	Skirting the outlier to the right; another occurs 2 miles to the left; a field of <i>chi</i> grass, 3 feet high, occupies the intervening space. Ground might be here reclaimed; also many of the grassy patches to the rear.				
	A.M.					
	7-15	Track very heavy over pulverized clay; much winding; cross 2 or 3 small streams or canals.				
	8-10	Skirt ponds; through tamarisk growth.				
	8-30	CHAHAR-BAGH . . .	56	381	Village of 40 Chentu families. Reeds grow in the vicinity.	
					If we crossed a river (Kashgar daria), it was a most insignificant one, and taken for a canal or series of small canals; there is a small stream here, probably part of the River Kashgar which here loses itself in irrigation canals. N.B.—The ponds passed in the forest seem part of a small river; ? the one from Jaidi.	
7	18th. A.M.	Bar. 26'15". Large Bar. 26'35". Temp. in room 82°. Elev. 3,600'.—Hot and cloudless day.				
	4-20	CHAHAR BAGH . . .	...	381	Over a plain of <i>chi</i> grass; a hard track; clay soil. Road said to be swampy at times.
	4-25	Temperature 76°; now uniformly hot day and night; the snowy range, now distant, no longer affects the general temperature; the hills to right are about 15 miles off.				
	4-40	Cross a canal 10 feet wide; several small ones intersect the plain.				
	4-47	Road goes in a series of circles; a raised track, one line; the <i>chi</i> extends far to either hand; hills to the right, steep and barren; we pass close under the outlier to left.				

ROUTE NO. 9—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M.				
	5-20	Through jungle of tamarisk; soft soil; the hills are steep and rugged; canals are cut across this waste; all are sunk 3 feet to 6 feet. Ground might here be reclaimed to agriculture.			
		Bar. 26'0". Temp. 75°. Elev. 3,760'.			In some years it snows a little here; in others none falls at all.
	6-10	Exceedingly dusty track, pulverized clay.			
	6-50	More <i>chi</i> grazing and less jungle.			
	7-45	Hamlet 600 yards to the right, and <i>chi</i> grass grazing; otherwise the dusty, i-line track passes through thick bush jungle, and is sunk 2 or 3 feet.			
	8-0	Canal. Not utilized. Ground might be reclaimed.			
	8-15	Canal. Ditto.			Ditto.
	8-25	Quantities of <i>chi</i> , and it alone; clumps of trees, dotted over the plain, indicate homesteads.			
	8-40	Strike the Kashgar river, right bank; sluggish and shallow; up to 50 feet broad; banks are from 3 to 6 feet high; hamlet and rest-house; wheat, Indian corn, melons, now cultivated; soil well irrigated.			
	9-10	There is scarcely any flow in the river here; 12 feet below the general surface.			
8	9-15	MARAL-BASHI . . .	47	428	Ziárat and suburb. Much of the land passed over to-day can be reclaimed if irrigated.
		Bar. 25'96." Large Bar. 26'14.' Temp. 86°. Elev. 3,800'.			Hot and cloudless; iron ore is said to be found in the vicinity, and to be roughly smelted. Ice cheap and plentiful. Iced curds and apricots, which are plentiful, are most palatable during these hot months. (See sketch No. 70.)

To Yarkand 7 days.

STAGE	1.—Shamal	60	} (See Part I.) All small villages.
"	2.—Uksak-minar	80	
"	3.—Allah-aigur	80	
"	4.—Minet	90	
"	5.—Lailuk	80	
"	6.—Aitwoh	120	
"	7.—Yarkand	80	

There are over 2,000 Turk families in the town; 350 Honan soldiers (250 really), some mounted, garrison the fort. Indian merchants come here from Yarkand, stay a month or so and return there. They bring cottons, tea, pepper, ginger, sugar, &c.

There is a Chi-hsien Mandarin here and a Military Mandarin.

A barber from Lahore is here, doing well, and is contented; also a merchant from Delhi; both came in the Badaulat's time. The Chinese are easy masters, and do not trouble the people. They do not agree with the Andijánis alone, because they will not give them their women in marriage; coming from Kokan they are strict Mussulmans. The Chentus give their women in marriage to most creeds. Mussulmans from India like this country, because of the facilities for taking many wives. A poor man here can afford two, and in India one only. Hájis take the route by Ladakh, and in the winter that *via* Samarkand, Mazár-Sharíf, and Kábul, to Bombay. The present rule is preferred to that of the Badaulat.

ROUTE NO. 9—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
<p>The Maral-bashi oasis is comparatively a poor one; a dusty, pulverized clay. Up to 6 inches of snow falls some winters; the drinking-water, from canals, is liquid mud. Is it the rich mud (full of organic matter) that produces so much goitre?</p>					
8	19th. A.M. 12-30	MARAL-BASHI . . .	428		Good road, passes under the fort, and takes a westerly direction through cultivation, crossing canals by bridges made of trees.
	1-0				Cross canal 24 feet wide.
	1-30				Small village. Homesteads dotted here and there.
	1-45				Cross canal 24 feet wide, and gradually leave cultivation.
	2-10				Cross the Kashgar river 50 feet wide in a bed sunk 6 feet to 9 feet; a poor sluggish stream. The road, generally 30 feet broad to this, now becomes a track through uncultivated country.
	4-0				Enter a wood infested by large flies, most troublesome to horses. High <i>chi</i> grass plentiful.
<p>The tograk forest traversed is a thick one; the trees are from 20 to 25 feet high, and from 1 to 1½ feet in diameter. Soil spongy off the track. The Maral-bashi oasis soil was somewhat of the same nature. Manuring and cultivation will improve it.</p>					
9	6-50 P.M. 5-0	SURGA ROBÁT . . .	54	482	6½ hours. Large inn; yards and a few Chentu huts made of logs. Bar. 25.9". Large Bar. 26.15". Temp. 85° in-doors. Elev. 3,870'.
					Re-start. The air has lost all its freshness, day or night. The water is very muddy, from shallow wells, in bed of a dry nullah; brackish. Flies and heat force a long night's march through the tograk forest; a dusty road over a soft and spongy soil; the track, winding, works round a deep depression. The hills are 20 miles to the right.
	8-0				Trees fewer, and more of a tamarisk than tree jungle.
	9-45	KARA RILCHIN ROBÁT . . .	40	522	Halt 15 minutes. Water is obtained from a surface well in a depression. The road still runs through forest.
	11-15				Road very heavy and deep in dust, and continues so through a shrub jungle.
	A.M.				20th July.
	3-0				Unoccupied homestead.
10	6-20	UEDAKLIK ROBÁT . . .	56	578	A few huts and a large inn with yard and rooms off it. Large flies are still very numerous, and mosquitoes plentiful in the bushes.
10		Bar. 25.875". Large Bar. 26.16". Temp. 83°. Elev. 3,850'.			Sky clouded over. Curds and milk are generally procurable at all stations; a little fodder here; water, muddy, brackish, and of a marshy taste, from small canal, but better than usual.

ROUTE NO. 9—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- medate.	Total.	
	A.M. 20th.	URDAKLIK ROBĀT .	...	578	The hills approach to within 6 miles; there is a regular hum of flies from dawn till dark. My old white pony, a mass of blood, looked at the end of the march in a deplorable state.
	P.M. 5-0	Re-start; a cool breeze; the inn enclosures measure about 100 x 150 yards. A good deal of <i>chi</i> grass growing; the soil seems capable of cultivation. There are several ponds and open country for some distance. Swampy to the left hand, where much rice might be grown.			
	5-30	Get into a weed jungle again; hard track as yet.			
	5-45	Spongy saline soil and tograk tree jungle.			
	6-15	Amidst low mounds; tamarisk.			
	6-45	Ponds and <i>chi</i> grass. The hills are 15 miles to the right.			
	8-0	Over a plain; little jungle.			
		WUSUBLOCK . . .	30	608	Pond and inn.
	10-0	Ponds; over a plain.			
	A.M. 1-45	21st July. Station. Bridge over canal, which is upwards of 35 to 40 feet broad in places; an inhabited enclosure on its banks.			
	3-30	Cross the Kashgar river; bridge, 45 paces long, in 3 spans; water of river 7 feet from ground surface. The width of the river is from 25 to 45 yards with a rapid current; muddy; shortly after cross a canal which is from 30 to 40 feet broad. Banks reveted with timber at bridges for some distance above and below stream.			
II	3-45	KŪPRU ROBĀT .	56	664	An inn, enclosure and huts. The road, good to Wusublock, then becomes very rutty and in places very sandy. Where skirting ponds it is possibly swampy at times; water and fuel are plentiful along the route, and <i>chi</i> grass grows near the ponds generally. The li here equals about 0.6 to 0.7 of a full li. Lightning in the hills.
		Bar. 25.85". Large Bar. 26.12". Temp. 85° in-doors at 7-30. A.M. Elev. 3,870'.	The inn is surrounded by a growth of tamarisk; there is no grass. There must be cultivation along these large canals somewhere. They say not, however, and that they are cuts to relieve the main stream, again joining it (?); oases might be opened along them.		
II	P.M. 5-0	KŪPRU ROBĀT .	...	698	Re-start amidst hillocks through a thick jungle of tamarisk, &c.

ROUTE NO. 9—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	P.M. 5-45				The road is bad, dusty, and rutty. Flies and mosquitoes numerous.
	8-0				Over a plain.
	A.M. 12-0	22nd July. YANG-I-ÁBÁD . . .	56	754	Village. Through cultivation; the village has 30 houses with 2 or 3 families in each.
	1-0				Now partial cultivation; halt for 15 minutes. Cross numerous irrigation canals.
	3-30				Homesteads dotted over the oasis, which is well watered. The road is from 30 to 40 feet wide and lined by trees. Fine fields of corn and Indian corn.
	4-55				Rest-house. Getting in the corn harvest; winnowing the grain.
	6-10				Halt 10 minutes.
12	6-35	FAIZÁBÁD . . . Bar. 25.8". Large Bar. 26.04". Temp. 77° in room. Elev. 3,920'.	40	794	Pass many farmsteads. The road to Yangiábád is either very rutty or sandy; thence very good; the bridges over the water-courses often difficult, being poor structures of trees laid longitudinally.
					Here 450 houses with 2 or 3 families in each; garrison 120 Dungan cavalry. The mata or cotton cloth costs 3, 5, and 7 tengas the length of 18 feet; cotton costs nearly 2 tengas the cattie. Few houses in the village, and those poor ones.
	P.M. 5-0				Re-start; oasis well watered; chiefly Indian corn grown; road 40 feet wide, lined by trees; a thick crust of saltpetre covers the stagnant pools. The weather is cool; good dhub grass grows plentifully. Temp. 87°.
	5-30				Narrow sandy lane.
	5-47				Indian corn of all heights, ranging from 1 to 4 feet high, and ripe.
	6-12				A canal 20 feet wide. Mulberry trees; soil a sandy clay.
	6-22				Road lined by homesteads. Sky clouded over; wind and dust-storm.
	7-20				Farmsteads thickly dot the country. A rich oasis; many trees.
	7-30	SHUB-DÜR . . .			Small village (30 li) with an inn; now traverse a saline soil; little or no cultivation here.
	8-15				Skirt the river.
	8-40				Small village.
	9-0				Stream 30 feet wide. Skirt the river through cultivation; river 50 to 100 feet wide.
	9-20				Small village.

ROUTE NO. 9—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	P.M. 10-30				The road, generally good and broad, is here broken away at the long narrow bridge which spans the river, and we upset into it. The stream flows from left to right. Halt till 12 A.M. to right matters.
	A.M. 12-45				23rd July. Cross a rapid stream, bridged as usual by wooden beams resting on piles.
	3-45				Cultivation.
	4-10				Bar. 23.7". Temp. 70°. Elev. 5,170'.
	4-30				Ruins; much waste land. The soil is full of salt. A crust forms on all stagnant water.
	5-20				River half a mile to the right; the hills there are from 15 to 20 miles distant; low.
	5-45				Small village. An extensive swamp to right.
	6-8				Small village. Country well cultivated.
	7-35				Halt 15 minutes. Pumpkins and melons are plentiful; peaches or nectarines are small, but of fair flavour.
13	9-20	YANGI-SHAHAR, KASHGAR.	123	917	Turn to the north to gain the north gate, and reach inn at 9-30 inside the north gate. (See Part I.)
		Bar. 25.8" and 26.16". Temp. 85°. Elev. 4,000'.			
	P.M. 3-45	YANGI-SHAHAR			Re-start from inn.
	3-50				Down 40 feet road lined by walls; 2 large camps opposite north gateway.
	4-10				Camp of 450 yards side; canal (10 feet); swampy to the right for some miles.
	4-20				Camp; ruined walls, &c.
	4-25				The country is well watered; cultivation, walls, and gardens to the right. Trees line the road, which is hard and in good order, but very dusty.
	4-30				Rice plentifully grown.
	4-50				The river to right is a full meadow stream.
	5-7				Bridge, 100 feet long, of 3 buttresses, over the river; rapid current.
	5-12				Uneven ground; walls, buildings, &c., in ruins; a rage of wind, and am blinded with dust; how hateful!
13	5-35	KASHGAR CITY	15	932	Arrive outside walls. Poor inns in the suburb.

ROUTE NO. 9—concluded.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A. M. 9-0	24th July. Bar. 25.56". Large Bar. 25.8". Temp. 73°. Elev. 4,150'.			Rain last night after the high wind. (See Part I.)

ROUTE NO. 10.

JULY

Kashgar to Yarkand.

1887.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	P. M. 7-10	24th July. KASHGAR, YANGI-SHAHAR.			<p><i>For fuller details of this route see Report of the Yarkand Mission, 1873.</i></p> <p>The distances given are from the Yangi-shahar. Leaving Kashgar city, the north gate of the Chinese city (there are three gates, north, east, and south)</p> <p>was reached at 9-30, delay being caused, <i>en route</i>, by having to ford the Kashgar stream, one span of the bridge having been carried away by a freshet 8 hours previously, the result of the rain of the previous night.</p>
	10-0	Passing round the west side of the city, a good road leads from the south gate, embanked where necessary, over a country swampy for some distance, crossing many canals by poor bridges of trees laid longitudinally, many of which are in very bad order.			
	10-35	Wooden bridge, 45 yards long, over a canal. Delayed by one of the carts falling through it.			
	11-35	Wooden bridge, over a canal, 15 yards wide; thence traverse a waste or poorly cultivated track till 12-30 A.M.			
	A. M. 12-30	25th July. Cultivation commences.			
	3-15	Traverse a richly-cultivated district, well wooded; soil, sandy; well watered by numerous canals, some of which are 20 and 50 feet wide. Homesteads are thickly dotted over it; the soil is saline; where sandy, it produces the best crops, when well watered.			
	3-45	Bar. 25.62'. Temp. 62°. In holsters 70°.			
	4-15	Cross three wide branches of a canal or stream, each 20 to 30 feet wide, forming together a wide river, by a causeway, with rough culverts of trees. (Up stream 100 feet wide.)			

ROUTE NO. 10—continued.

No. of Stage,	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- medate.	Total.	
	P.M. 4-30				Cross a stream 30 feet wide (up stream 100 feet wide), by a similar causeway, and cross a flat over which the road is in bad repair; bridges broken through, &c.
	4-55				Cross a stream 30 feet wide (up stream 100 feet wide), by causeway.
1	5-30	YAPCHAN . . .			A small market village of 200 families.
		Bar. 25°62" & 25°83". Temp. 73°. Elev. 4,150'.	51	51	Pace 8½ li an hour. The road is good throughout the stage, and generally takes 2 lines of traffic, except at the bridges, which are
					very poor, usually consisting of trees laid longitudinally across the opening to be spanned. Canals intersect the country, of which only the chief have been noted.
	P.M. 5-5	25th July. YAPCHAN . . .			Re-start in a light rain, along a road 25 feet wide, lined by trees, in good order, except for the inclines over the water-courses carried across it and the poor bridges as described.
	6-0				Skirt the river 200 to 300 feet wide. Here a meadow stream; rapid current.
	6-25				Cross the stream by a bridge 25 feet long; the country becomes swampy; good grazing. Low hills are seen at a distance of 20 to 30 miles to the right.
	7-0				Traverse a treeless and sparsely-inhabited grazing country; soil, sandy; a wide stream (100 feet up stream) is crossed by a causeway with culvert 30 feet long.
	8-15				Village, Cultivation is passed through till 9-15, when again a treeless and untilled grazing country, swampy in places, is traversed; soil, sandy.
	11-15				Trees again line the road. Cultivation at first partial, gradually becomes general. The country is too plentifully watered by numerous canals. Soil often sandy.
2	A.M. 1-20	YANGI-HISSAR . . .	64	115	Weather cloudy. (See Part I.) Pace 8½ li an hour. Town and district of 2,000 families.
	7-0	Bar. 25°66". Large Bar. 25°96". Bar. 25°59" and Large Bar. 25°9" at 3:30 P.M.			Temp. 75°; cool and clouded over. Temp. 80°. Elev. 4,150'.

There are 3 Mandarins in the town,—one Civil (a Leu) and two Military (1 Jang, 1 Kou). They are assisted by 6 Turk Begs. By means of native officials attached to the Yamens, the Chinese collect the taxes. A road leads to Tash-kurgan; the stages are said to be—

TASH-KURGAN.
(Chinese.)

STAGE	1.—Yukh	160	} N.B.—This is Route 83 of Central Asian Route Book. Doneys take 6 days.
"	2.—Kash-kasu	110	
"	3.—Tarat-davan	100	
"	4.—Che-chah-lik	100	
"	5.—Task-kurgan	30	

ROUTE NO. 10—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
2	P.M. 3-50	26th July. YANGI-HISSAR . . .	...	115	The main street of the town, lined by shops kept by Turks, and reaching to the fort, is cleaner than in most other Turk towns; boughs of trees laid on horizontal

poles give a certain amount of shade. Ice can be bought in all the large towns. There are a few Hindu merchants here; weather cloudy and stormy. A little rain during the night. Crossing, by steep ascent and descent, a sandy mound, the road traverses cultivation and gardens (melons, apricots, peaches, &c., grown plentifully).

4-20 Country uneven; to the right are sand-hills, and in that direction there is a barren waste for some miles.

5-6 Cross the shallow stream, running in a deep sandy bed (sides perpendicular, and 20 to 30 feet high) by a wooden bridge of 35 yards span, and ascend the flat and barren river valley with low sandy ridges to the left. (*See sketch No. 71.*)

6-3 Cross a grassy plain, over which villages are dotted at wide intervals.

8-30 Cultivation recommences.

9-0 TOPSK | Village. Inn. Cultivation soon becomes partial along the road. Homesteads occur at intervals off it; country well watered by numerous streams or canals roughly bridged as described.

10-20 Village. Road flooded.

A.M.
12-20 27th July.
Village. Road flooded.

2-20 Village. Road flooded.

The road now crosses a sandy plain, flooded by many streams, before reaching the oasis of Kizil, a village of 300 odd Turk families with a few shops.

3	3-55	KIZIL Bar. 25°62". Large Bar. 25°83". Temp. 66°. Elev. 4,150'.	93	208	Pace 8½ li an hour. Barometer 25°55", with temperature 80° in the evening.
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In the Yangi-hissar district and under the Kashgar Tao-tai; in the small villages a Chentu Beg represents civil authority; heavy rain fell from 7 P.M. till 9 P.M.

Throughout the route from Kashgar the villages are collections of scattered homesteads.

The villagers here have turned out with drums, horns, and flags, and in oriental style, with loud shoutings, are building a tank. Cotton is grown; the plant is now 1 foot high.

The saráís along the line, Kashgar to Yarkand, generally afford superior accommodation.

ROUTE NO. 10—concluded.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
3		KIZIL . . . . .	...	208	Re-starting at 5 P.M. at 5-30 P.M. the cultivation ceases, and the road becomes a heavy track over a sandy waste. There are hills 6 miles to the right, and low hills 15 miles off to the left.
	P.M. 7-1.	Hut.			
	9-0	Yarkand district commences.			
	10-15	Robát with deep wells.			
	12-0 28th.	Cross a broad river flowing in several streams, one only difficult to ford.			
4	A.M. 3-30	ROK ROBÁT	81	289	In the Yarkand district; an oasis, about 1 mile broad, of 400 families. Sandy clay soil, growing wheat, barley, maize, &c.; well wooded, some trees of size.
		Bar. 25°74". Large Bar. 25°97". Temp 75°, and at 4 P.M. Bar. 25°62". Elev. 4,250'.			
4		ROK ROBÁT . . . . .	...	289	Re-starting at 4-40 P.M., traverse the well-watered oasis; at 5-30 P.M. the country becomes barren or partially cultivated. Delay of 35 minutes. Low hills 2 miles to the right.
	P.M. 6-45	SAI-LANGAR			Oasis and village; sandy soil. The road is often 30 feet wide, lined by trees. This is its general character through the cultivated tracts.
	7-50	Village. Good grazing; moist soil.			
	8-25	Grass (<i>chi</i>) borders the road; swampy in places.			
	9-35	Village. Swampy ground in the vicinity; an efflorescence covers the clay soil; soil both of clay and sand.			
	A.M. 9-50	The road winds amongst sand-hills, passes several ponds; at midnight the swampy ground ceases and cultivation recommences.			
	A.M. 12°30	29th July. Village. Wide canal; a wide and sandy Broadway, lined by trees, leads through cultivation to the city.			
5	1-40	YARKAND, YANGI-SHAHAR.	70	359	Pace 8½ li an hour. (See Part I for details.)
	P.M. 6-15	Bar. 25°62". Large Bar. 25°92". Temp. 80°. Elev. 4,100'.			

ROUTE NO. 11.

Yarkand to Leh. Cart-road to Kargillik. Park track thence.

AUGUST

1887.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 6-40	1st August. Bar. 25°65". Temp. 81°.			At this season the nights are hot and airless. The cost of a pack-horse, from Yarkand to Leh, is 250 tengas; load 240lb; better under 200lb. The final preparations for passage to Leh for everything but grain for ponies must be made at Yarkand; excellent biscuits are baked for the journey; one set of spare shoes per pony is required; spare nails, &c. Excellent saddle-bags, coats lined with Astrakhan felt leggings and loose boots can be procured. Leaving the city, a good road, 20 feet wide, shaded by trees on either hand, leads through well-irrigated cultivation, chiefly rice, to the river (?) which is crossed by a rough causeway, with narrow culverts formed by trees laid horizontally. <i>Zaghir</i> (an oil), Indian corn, &c., cotton are grown; the latter plant, now 6 inches high, grows to a height of 178 inches to 2 feet.
	9-25	Cross the Yarkand river, here about 500 yards wide, with a rapid streams; banks from 1 to 4 feet high. There are 8 boats, 40 feet x 9 feet, with sides each 2 feet 6 inches high, taking at one trip 9 or 10 horses and their loads.			
		Bar. 25°75". Temp. 100° in holsters and 85° in air. Elev. 3,970.'			
	11-25	Crossing completed. Pass up stream skirting the river; country well cultivated and timbered.			
I	11-45	AKHIR or ARGARCHI BAZÁR.	9		Pace 2½ miles an hour. The direct road to Posgam cannot be taken at this season when the Yarkand river is in flood.
	P.M. 9-15	Re-start. From the bazár the broad road, lined by trees, clay soil, traverses a more or less swampy district; in many places it is flooded; it skirts the river; homesteads occur at intervals.			
	11-0	Hamlet; road touches the river; is often sandy; is from 20 to 30 feet wide, and in good order.			
	11-25	Village. The road now 15 feet wide, and lined by trees, passes through rich cultivation. Rice is plentifully grown; many canals are crossed.			
	A.M. 12-3	2nd August. Homesteads here and dotted over the country. Road 30 feet broad, in good order; clay soil; country swampy; cultivation general and rich.			
	1-25	Soil, sandy.			
	2-20	POSGAM	13½	22½	Large village with many shops. Thence the road is often sandy;
		generally 30 feet wide, and shaded by fine trees.			
	4-40	Small village. The country is richly cultivated and well watered.			
	4-50	Here and there are large expanses of <i>chi</i> grass.			
	5-20	Bar. 25°45". Temp. 70°. Elev. 4,270'.			
	5-14	Rich cultivation; many hamlets.			

ROUTE NO. 11—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
2	A.M. 5-25	EKSHAMBA BAZÁR .	8½	31	Pace 2¼ miles; between the Tezáb river and Posgam (not included) there are said to be 10,000 families. The water, from canals, is here muddy, but pleasantly cool. The people wash in and drink out of them indiscriminately.
2	3-25	3rd August. EKSHAMBA BAZAR .	...	31	Leaving the village at 3:50 A.M., a network of canals is crossed by a rough causeway with culverts: the road is in good order, often 40 feet wide.
	4-0	Bar. 25'4".			Temp. 80°.
	4-10				Swampy.
	4-23				Cultivation ceases. The country becomes swampy, and grass and thorn grow in places; it is flooded, and the road embanked.
	4-52				Cultivation becomes general.
	5-0				Cross the Tezáb; here a rapid stream, 200 feet wide and 3 feet deep, flowing over a pebbly bottom. Its bed is 600 yards wide. It must be forded early in the day, before the sun has caused the snows to melt. The left bank is 1 foot and the right bank from 6 to 8 feet high. Low hills occur 10 miles to the right. On the right bank is a village and inn. Direction up stream 180°.
	6-12	KULCHI			Crossing completed. A shady road, 20 feet wide, skirts the river and passes through rich cultivation of rice, Indian corn, melons, &c.
	7-2				Small village. Hamlets are numerous. The women here wear long robes, reaching from neck to heels, with wide pyjamahs. The hair is plaited into two tails, which hang down the back; the men wear long robes, open across the chest, with long boots and pyjamahs, skull-caps, or conical sheep-skin caps tipped with wool. I nearly swooned on meeting a fair Chentu (Turk) with a red Newgate frill.
	7-25				Small village. Fine mulberry and willow trees line the road. The wheat and barley crops are being harvested; soil, a fertile sandy clay.
	8-0				Small village. Many of the canals are of size (30 feet wide).
	8-20				Bar. 25'325". Temp. 83°. Elev. 4,400'.
	8-30				Excellent grazing.
	9-15				The road, in good order and firm, from 35 to 40 feet broad, traverses a well wooded and agricultural country; soil, sandy.
	9-40				Small stream. Canals numerous.
3	9-47	KARGILLIK	16	47	Crossing a dry pebbly bed of a stream, which is 600 yards wide, Kargillik is reached, a town of 3,000 families. Pace 2¼ miles. Time 6½ hours.

The town contains a bazár of some size and many gardens, in which are vines, apple, peach trees, &c., &c. A Hsien Mandarin resides here.

ROUTE NO. 11—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
3	P.M. 12-20	Bar. 25'16". Large Bar. 25'51".			Temp. 88°. Elev. 4,550'.
	A.M. 3-15	4th August. KARGILLIK . . .	...	47	Leaving the town the pack-track (often hollow) traverses a sandy ravine to reach a stony plain. Little water in the nullah bed. The cart-road goes on to Khotan.
	4-40	Small stream. The Kilian here leaves the Khotan track, and descends a broad sandy nullah; cultivation 1 mile to left and 3 miles to right.			
	5-10	Skirt and cross the cultivated track; soil, poor and sandy; fine trees.			
	5-25	BESH-ALIK . . .			Village.
	6-0	Mill and several streams; hence no water is met with till the Bora oasis is reached.			
	6-37	Cross a stony and sandy waste, with a little camel-grazing near the cultivation.			
	6-50	Bar. 25'05". Temp. 80°.			Cultivation 3 to 4 miles to right. At this season both days and nights are cloudy and hazy.
	9-15	Bar. 24'9". Temp. 87° in holsters and 80° in the breeze.			Plain, totally barren, sandy, and gently waving.
	10-35	Low sand-hills to right and left.			
	11-40	Bar. 24'45". Temp. 95° in holsters and 85° in air.			The cool breeze has kept us alive.
	12-0	Reach the Bora oasis, a magical transition from the extreme of barrenness to a well-watered oasis; fields of <i>chi</i> grass.			
		BORA; scattered town			Richly cultivated and thickly studded with trees; grapes, apricots, apples, and pears cultivated; the three latter of poor quality. The mulberry tree is plentifully grown, and silk is produced in the villages and in Kargillik. The sand-hills close to the village to the left hand rise to a height of 1,000 feet and over. In the village are 155 Turk families; the houses here and in the neighbourhood are open and airy, with spacious yards and orchards.
4		BORA . . .	25	72	Time, full 9 hours. Pace 2½ miles.
		Bar. 24'4". Large Bar. 24'78".			Temp. 85° (open verandah). Elev. 5,400'.
4	A.M. 2-0	5th August. BORA . . .			Passing through cultivation at 2-25 A.M. ascend through barren sand-hills, and at 3 A.M. reach the summit of a long and gradual ascent.

ROUTE NO. 11—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 3-0	Bar. 23'9". Temp. 68°. Elev. 5,950'.	Thence the broad track traverses gentle, sandy undulations, gradually descending to barometer 24'2", temperature 68", elevation 5,600'.		
	4-43	A long ascent.			
	5-2	Barometer 24'0".			
	5-20	Barometer 23'96".			
	7-5	Bar. 24'05". Temp. 70°. Elev. 5,800'.	Stream and oasis of Assam Boreah is reached; halt 20 minutes; thence a series of poor oases, soil sandy, are traversed to the River Tazgum. In the intervals high grass, mixed with tamarisk, is met with. They are watered by a plentiful stream drawn from the river.		
	8-35	A few huts.			
	9-20	A few huts; over a sandy waste; a little cultivation to left hand.			
	11-17	SAIZAM	Village with extensive cultivation. The road now enters the gorge of the River Tazgum, 1½ miles broad, bordered by sand-hills of some height.		
	11-40	People very civil; bring tea, curds, &c., spread a carpet, and invite us to sit, rest, and eat; but day-travelling is too hot to waste its early hours in eating.			
	Cross the Tazgum river, flowing in several rapid streams, up to 3 feet deep, over a bouldery bed, 500 yards wide. Barometer 23'2", temperature 95° in holsters, 78° in the cool breeze, elevation 6,750' (the rise has been unnoticed, and quite gradual); thence the track is up stream, right bank, narrow, and much cut up by small water-courses, traversing fields of <i>chi</i> grass, wheat, &c. Fine dark-green poplars and fruit trees (apple, apricot, &c.) plentiful.				
	P.M. 1-0	The valley is several miles wide and richly cultivated; an extensive oasis; the caravan báshis assemble their ponies here to graze them before the arduous passage to Leh			
5	1-30	KILIÁN	28½	100½	Village of 135 families. Pace 2½ miles and 2½ miles an hour.
		Bar. 22'96" and 23'16". Temp. 75°, shade of trees. Elev. 7,000'.			
	DISTANCES.—To Guma, 1 day; to Khotan, 4 days; to Kugiar, 2 days; to Sanju, 1 day.				
	One and a half feet of snow fall here in the winter; apricots just ripening; grapes still very green, will be ripe within a month. Fruit abundant; a pleasant place.				
	A.M. 6-0	6th August. KILIÁN . . . .	...	100½	The track passes through well-wooded cultivation; soil, sandy. Wheat and barley are largely grown and reach a height of 3 to 4 feet. They are now being harvested.

ROUTE NO. 11—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 6-25				The Beg lives in a large enclosure in the outskirts of the village. At Kilián the final arrangements must be made for food for men and animals to Shahidullah, where grain for animals can be purchased from a Pathán merchant. As much straw as possible should be taken on, and spare feeds of barley in the saddle-bags.
	6-35				The valley narrows to a width of 4 miles, and cultivation is gradually left.
	7-45				Valley narrows to a few hundred yards, and is bordered by steep hills of sand and conglomerate, rising over 1,000 feet above it on either hand.
		Bar. 22'8"			The path is narrow and winding, but a fair pack-track; at times rocky. The stream for long distances flows through deep gorges (50 to 100 feet deep and from 10 to 20 feet wide).
	9-25				Veins of felspar occur in the clay rock. Rocky path.
	10-17				Ravine 300 yards wide. Patches of cultivation (grass, wheat, and barley) occur at intervals; greenstone is met with.
	11-43	Bar. 22'25"			Temp. 90° in holsters and 78° in shade; hot sun.
	12-0				Cross the river chasm by tree-bridge, 24 feet long and 3 feet broad.
	P.M. 1-0				Ascend and descend steeply over a spur; camels find a little grazing on the opposite bank (right); a narrow path exists there; our track is generally 3 feet wide.
	1-30				Track, a narrow ledge, dangerous in places.
	2-15				Huts; a few fields of barley and a little coarse grass on the opposite bank; the track all along is thick with dust. The stream is from 20 to 30 feet wide.
					Crossing a side stream 2 feet deep, bouldery bed, 30 feet wide, and rapid, the first met with, arrive at a patch of grass, Aksu, and bivouac in the bed of the stream; roots for firewood; a few patches of barley grown in the vicinity; a little grazing.
6	...	Aksu	19	119½	Pace 2½ miles an hour. Bar. 21'86." Large Bar. 22'12". Temp. in holsters 90° and in air 82°. Elev. 8,300'.
					The hills are of sand and conglomerate (chiefly of sand), with the upheaving rock scarcely appearing; night chilly.
6	A.M. 5-30	7th August. Aksu . . . .	...	119½	Air, chilly. Bar. 21'9". Temp. 48°.
	6-15				A few huts and fields of barley.
	6-35				The river is now 50 feet wide, 2 feet deep; bouldery bed, and rapid current.

ROUTE NO. 11—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 7-2				The track is a narrow ledge, from 1 to 2 feet wide, a few feet over the stream; the cultivators live in kabitkas.
	7-13				The conglomerate boulders are largely composed of felspar. The general width of the ravine ascended is from 200 to 300 yards. The border hills are still of sand, of which the backbone appears at intervals only.
	7-55				Good space for a camp; cross a side stream (left bank); the track crosses the stream at intervals.
	8-13				Camp. A little sheep-grazing and a few shrubs for firewood.
	8-13				The hills are here rocky; track from 1 to 3 feet wide. The pad (6 inches thick) is the usual pack saddle in use on this line; the loads are balanced on either side by ropes. The Chinese accustomed to the Chefu pack-saddle (<i>see Part I, Vol. I</i>) call such loading "Fools' pigeon".
	8-50				A bad crossing, 3 feet deep, and bouldery; laden donkeys and sheep, each helped by a man, can ford it; difficult crossings are now frequent.
	9-45				Led riding-horses should here keep to the goat-path. The track ascends and descends frequently.
	10-5	Bar. in river bed 21'25" (9,100').			By a steep incline of $\frac{1}{4}$ the track rises to 9,350'. Bar. 21'05". Temp. 80° in holsters and 70° in air. Micaceous shale occurs.
	10-40				Growth of tamarisk.
	11-30 P.M.				Side stream from left hand.
	12-45				The hills have still long skirts of sand.
	1-12				A side valley joins in on the left.
7	1-35	BIVOUAC . . .	15	134½	Bivouac in the river bed, where side streams join in on either hand. Pace 2 miles an hour.
		Bar. 20'6" and 20'8". Temp. 75°. Elev. 9,850'.			A little grazing in the river valley. Roots for fire-wood.
	A.M. 7 5-45				8th August. Temp. 47°. Chilly.
	6-55				Camp. The stream forks into branches, running 130° and 180°; the track follows the latter, crossing and recrossing the stream frequently; stream 2 feet deep. The hills are now of conglomerate and indurated clay, breaking off into slabs of weathered felspathic rock (?).
this journey.	8-0				Camp. At all the camps noted is a little grass fit for grazing sheep. The carriers think it sufficient for their ponies, trained to starve before starting on
	8-30				Camp.

ROUTE NO. 11—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 8-55				The stream forks into branches; 175° and 228°; the track keeps to the former. The hill slopes are nearly perpendicular; barren. Those at the head of the ravine are snow-capped. Caravans are frequently met with both coming and going; ponies, donkeys, and yaks compose them. Bhang is the chief load carried.
	10-45	Camp.			
	11-0				The ravine forks. The track keeps up the left-hand valley. They are all flat-bottomed; here 200 yards wide; stream 30 feet wide and 2 feet deep. The track is at times a mere 6-inch foot-hold along the hill slope. Gneiss occurs.
	P.M. 12-15	TCHUS-KHUN . . . Bar. 18'95". Large Bar. 19'0". Elev. 12,100'.	13	147½	Halt under the pass (Kilián Dawán) to load baggage on yaks. Ponies go over unladen; poor grazing on the hill-sides. No firewood; a small depôt of grain.
Caravan báshis form depôts here or beyond the pass.					
	1-30				Re-start. The track leads steeply up the ridged, sandy hill-side. Very dusty; cold wind; snow lies in the ravines only.
	3-10	Bar. 17'7". Temp. 45°.			
	3-20				Skirt a lake of shingle and sand into which the snow-waters pour from three sides. Shingle is held up at high angles against the perpendicular sides of the rocks. The track now winds steeply up a slope composed of angular detritus.
	4-10	Rain. Temp. 40°.			
	4-45	Bar. 16'6". Temp. 38°.			
	5-30				Rain turns into sleet and snow, and all view is hidden. Gradient of track very steep. Snow is held up against the hill-sides, but the track is clear of it, except here and there.
	6-12	Bar. 15'95". Temp. 35°. Elev. 17,000'.			Top of pass. By zig-zags descend steeply down the shaly hill-side.
8	8-25	BIVOUAC . . .	12½	160	Arrive over the bed of the river, and bivouac on the steep hill-side in darkness and a snow-storm; no grazing; no firewood; no space for a tent. The ascent is so steep and continuous that it is most trying for animals, except yaks, even unladen. The effects of the rapid ascent on men is equally distressing; even those accustomed to traverse it turn pale. Exertion makes the head swim. Dozens of skeletons of baggage animals line the path. One pony rolled several hundred yards down the stony hill-side without being hurt! Marvellous! thought he was killed.
		9th August. BIVOUAC . . .	...	160	The route now descends the Kilián stream to its junction with the Shahidulla stream.

ROUTE NO. 11—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 8-30	Bar. 17'85". Temp. 40°. Elev. 14,200'.			Still snowing. Caravans store grain here in advance hills, steep and rocky, with slopes of shingle and detritus.
	9-50	Start down stream. Up stream, direction 315°.			
	10-6	Small space for camp; no grass.			
	11-15	Small space for camp; no grass; the track is 1 foot broad, often stony and rocky, crossing and recrossing the stream to avoid great ascents, or perpendicular rock. Crossings, difficult, up to 50 feet wide and 3 feet deep; bed bouldery.			
	P.M. 12-35	Red and grey granites occur. It would almost pay a caravan to cart away all the bones that line the track. A Freemasonry seems to exist amongst the carriers frequenting the route; loads are left here and there to be hereafter recovered, and are not annexed by others!			
	1-35	Bar. 18'5". Temp. 58°.			
	2-15	Camp; swampy; poor grazing. The ravine is generally 100 yards wide, flat-bottomed.			
	2-53	Camp; poor grazing.			
	3-3	Delayed half an hour at a difficult crossing; loads get wetted.			
	4-10	The filling in between the perpendicular sides of rock is generally a granite conglomerate, and yet the hill-sides look to be of a clay rock (? weathered granite or diorite).			
	5-22	Patch of wheat.			
	5-30	Camp and grazing.			
9	5-40	BIVOUAC . . .	17	177	Bivouac in river bed amongst a few shrubs affording firewood; no grass. The ponies are driven over the river to a side ravine a short distance down stream where there is said to be grazing. Pace a good 2½ miles an hour.
	6-30	Bar. 19'55" and 19'62". Temp. 56°. Elev. 11,600'. Temp. 34°; nights cold.			
9	A.M. 7-40	10th August. KILIÁN STREAM . . .	...	177	The track continues down stream.
	9-3	The Kilián stream unites with that from Shahidulla, the Kara-kash river, which latter the track now ascends.			
	9-15	Bar. 19'9". Temp. 66° in holsters and 60° in air. Elev. 11,000'.			The stream is 100 feet wide; current rapid, bed bouldery. Valley flat-bottomed and 100 yards wide, with conglomerate filling in of the same nature as the hills bordering the valley.

ROUTE NO. 11—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	A.M. 9-50	Camp; swampy; poor grazing.			
	10-5 10-25	The Kalak stream joins the Kara-kash. To gain the Shahidulla valley the former river is ascended over a mile and crossed at a point where an island divides it into two streams; both difficult crossings.			
	10-50	Regain the Kara-kash stream, and ascend its left bank.			
	11-4 P.M.	Camp; swampy; poor grazing.			
	12-45	Bar. 19°55". Temp. 77°.			The valley is 300 yards wide, and affords grazing at intervals and abundance of fuel.
	2-20	Lost 20 minutes looking for a crossing; we cross to right bank above where several islands divide the stream; 3 feet deep; sandy bed. The hills break up at the head of the valley (500 yards wide and flat-bottomed). The valley forks into arms, running 195° and 240°. The latter leads to the Yangi pass and Kugiár.			
	3-16	Shahidulla fort lies 300 yards to the right, in the centre of the valley. (See sketch No. 72.)			
10	3-35	SHAHIDULLA . . .	18	193	Bivouac on the right bank of the Kara-kash stream; the steep hills bordering the valley hold up no steep slopes of shingle as hitherto. Fair grazing; firewood plentiful (tamarisk). Valley 400 yards wide and flat-bottomed.
		Bar. 19°35" and 19°42". Temp. 72°. Elev. 11,800'.			
		The training of transport animals in the matter of food, to eat little, and at night only, is an important matter; these Badakshi horses eat at night only, pick up what they can, and get one feed of gram a day, <i>vis.</i> , half a nose-bag full of barley, an hour before being loaded up and after being driven in from pasture.			
	A.M. 7-0	11th August. Bar. 19°55". Large Bar. 19°61". Temp. 42°.			More or less grazing over the valley, but it takes a long time for a horse to fill his belly.
	7-40	Cross to left bank; 3 feet deep; sandy and pebbly bottom; rapid current from 100 to 150 feet wide.			
	8-10	Track over felspathic sand-hills of clay rock.			
	8-48	We take on firewood from Shahidulla for 5 days.			
	9-15	100° leads up valley for about 20 miles; a little grazing in valley; the Karghiz visit it at times. Leave the valley and enter the hills; grain can be bought from a Pathán merchant; the caravan báshi has laid in barley for 5 days. A snow-topped hill lies at end of line 100°.			
	9-48	Up a ravine full of boulders. Bar. 19°15". Temp. 72°.			
	10-24	Following up the stream along its right bank by fair but stony track.			

ROUTE NO. 11—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 10-35	Grazing; camp; fuel.			
	10-45	SUGET Bar. 18'55". Elev. 13,000'.	Two Karghiz tents. This would be a good camp for commencement of passage of hills. Rheumatism in right shoulder. Halt 15 minutes.		
	11-40	Bar. 18'0".			
	11-55	Halt 15 minutes.			
	P.M. 1-20	Road at times strewn with boulders.			
	1-48	Bar. 17'19". Temp. 75° in holsters and 67° in air.	Traverse a flat, gently rising, stony valley, 500 yards wide, bordered by steep, clay hills, with snow patches on their sides; a little grazing.		
11	4-0	BIVOUCAC	19	212	8 hours. Halt by the side of the stream; a direction of 135° leads over the pass; no firewood; a few roots found; no grass; all stones; brown argillaceous hills. The ponies were driven up a side ravine, where there was said to be a little grass.
	4-30	Bar. 16'75". Large Bar. 16'9". Temp. 66°. Elev. 15,600'.	The ascent is gradual from Shahidulla to the foot of the pass along the banks of the stream first touched. The valley leading to the east at 9-15 resembled the Shahidulla valley, and is of the same gradual ascent, the main stream flowing down it.		
11	A.M. 3-30	12th August. Up the ravine, from 100 to 200 yards wide, shaly sides, leading to the pass, Sujet.			
	5-30	Bar. 16'3". Temp. 31° in air and 42° in holsters.	A long needle is run through the nostrils of several of the ponies; up a hill of shale.		
	6-35	Bar. 15'8". Temp. 36° in holsters and 32° in air. Top of the pass 17,100'.			
	6-46	Gentle descent along hill slope.			
	8-22	Halt 15 minutes. Descending a wide valley of shale; snow on hill tops only.			
	8-55	Cold wind.			
	9-28	Bar. 16'4". Temp. 62° in holsters and 43° in cold wind.			
	9-50	Down a broad flat valley; sandy. The main range runs across our front; it is poorly covered with snow. Halt 10 minutes.			
	11-22	Following down the same stream, struck below the south side of Sujet pass.			
	P.M. 12-30	Across a broad flat valley; gravelly clay soil. There is a broad river bed, and river to our right.			

ROUTE NO. 11—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 1-17	AKTÁGH	Camp; ascend the bed of the river flowing to Kar-gillik.		
	1-25	Bar. 17'0". Temp. 82° in holsters and 73° in air. Elev. 15,300'.			
12	3-10	BIVOUAC, MALIKSHAH	27	239	In bed of river; the alternative road by the Karatágh pass, branched off to Aktágh.
		Bar. 16'9". Temp. 56°. Elev. 15,400'.	There is poor grazing in the vicinity, and roots for firewood.		
12		13th August. Muhammad Esa, sent from Leh by Captain Ramsay, arrived from Khotan; send him back with money and horse and letters for Younghusband, to enable him to cross by the Mustagh pass; snow during the night.			
	A.M. 10-0	Bar. 16'9". Temp. 45° in air and 60° in holsters.	We continue up the river bed, 1 mile broad; border hills, snow-topped.		
	10-37	Lost 25 minutes stalking deer, hornless and yellowish brown; slow pace, 2 miles an hour; ponies tired after the 27 miles of yesterday; cloudy; cold wind.			
	P.M. 1-30	Bar. 16'55". Temp. 53°	Camp; cross the river. A little grass in the ravines; The country is composed of broad, flat, shingly val-		
		leys between steep clay hills, with a backbone of rock; all look argillaceous. The sand is triturated, hard, argillaceous rock; in the main range there are masses and bands of a bright red conglomerate; tops of hills jagged.			
	3-0	Cross head of stream; a lake of shingle, sodden with water, from the snows.			
	3-36	Passing through a depression in the hills over a talus of small shingle, separating the brown hills on the left from the red on the right.			
13	4-50	CAMP, BRANGSA . .	13	252	On a ledge off the river.
		Bar. 16'3". Temp. 48°; cold wind.	Pitch tent for the first time and enjoy its luxury.		
13		14th August. Bar. 16'3". Elev. 16,500'.			
	A.M. 7-35	Snowing. Over a lake of shingle intersected by the river. All feel sick and cold; have to bestir to, get the tent struck; my orderly lay down helpless.			
	10-15	Heavy snow. Still skirt bed of shingle which lies to the right; steep hills, of argillaceous rock and red conglomerate, border it; valley 600 yards broad. (See sketch No. 73.)			
	10-27	Bar. 16'0". Temp. 42°	The zig-zugged ascent over pass begins		

ROUTE NO. 11—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
14	P.M. 2-7	Bar. 15'45". Temp. 50°.			
	2-25	KARAKORUM . . . | Top of pass. Bar. 15'32". Temp. 52° in holsters and 42° in air. Elev. 18,600'. Descend.			
	3-0	Bar. 15'7".			
	3-15	We traverse a valley, similar to the last, with a bed of shingle filling its bottom.			
	4-5	CAMP . . . | 16 | 268 | Eight hours. Bed of stream. Great exertion to pitch tent. Bar. 15'8". Temp. 55°.			
		15th August. Froze during the night, and very cold morning.			
	A.M. 6-50	Down valley; narrowing.			
	7-6	Through narrow gorge, 100 yards wide, bordered by slopes of yellow and red clays; pebbles, volcanic. Very little snow on these hills; they are not snow-topped; patches occur on their sides only; all the ravines are clear of it.			
		This road is a real vale of the shadow of death; you meet some part of a skeleton of a pony every 500 yards; it is well frequented; we have met a small caravan of about 20 ponies every other day.			
	8-42	Camp; 3 domed huts.			
	8-55	Ravine widens; track over shingle; a snow-clad range to left $\frac{1}{2}$ front, 8 to 10 miles off.			
	9-7	Road divides; the direct road, one day shorter, keeps more to the west; it has good fodder along it, but water now blocks it, the track keeping to the valley.			
	9-30	Cross the stream descended. Bar. 16'25" . . . | A shallow valley leads up in a direction of 100° for 7 or 8 miles.			
	10-8	Cross broad shingle bed of river. Bar. 16'3". Temp. 60°			
10-35	Ascending over the border of the hill and along a ravine penetrating it.				
11-30	Long, gentle pull.				
2-10	The range ahead is more covered with snow than the Karakorum range, which is a series of wavy chains running north and south; cross the gravelly top of the range. (See sketch No. 74.)				

ROUTE NO. 11—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	P.M. 12-30	Bar. 15'65". Temp. 70° in holsters and 45° in air. Bar. 15'53". 18,200'.			
	1-0	Cross stream flowing right to left; the upland extends 2 miles to right; 3 to 4 miles to near hills, and 8 to 10 miles to distant hills to left.			
	1-45	Bar. 15'65".			
	2-0	Bar. 15'6". Descend steeply down loose shaly and pebbly hill-side.			
	2-45	Down a narrow ravine to main valley under snowy range (22,000 feet); track bad and stony.			
	3-24	Bar. 16 2" . . .	Halt 25 minutes.	Down a river of liquid red mud 20 feet wide; the red rock is a conglomerate with a matrix of red clay.	
	4-15	Track 1 to 2 feet, ledgy and stony, &c.			
	5-0	A stream and valley, from 270°, join in valley 200 to 300 yards wide; steep rocky sides; shingle bed.			
	5-55	Road generally through water and along bed of river.			
15	6-5	MURGHI . . .	23	291	Bivouac in the bed of the stream.
		Bar. 16'45". Temp. 42°.			Under the snows of main range. The stream flows over the pebbly bed in many streams; road runs down bed as a rule.
15	A.M. 6-30	16th August. Froze hard during the night. Bar. 16'55". Temp. 33°.			
	8-0	Over pebbly bed of stream all along; valley 200 to 300 yards wide. The steep and rocky, snowy range now fronts us. All the shingly beds of rivers are spongy and saturated; ice on streams.			
	9-30	DARA MURGHI . . . Bar. 16'81". Temp. 65° in holsters and 55° in air. Elev. 15,600'.	Camp.	Halt 10 minutes.	
	10-4	The ravine now traverses the main range of snow-topped mountains of argillaceous rock and red clay conglomerate; cold wind.			
	10-25	A slip of shale crosses the ravine; hill-side of limestone, felspar, chert, &c.			
	11-15	Very steep, zig-zag, ascent over hill; right bank.			

ROUTE NO. 11—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	A.M. 12-0	Bar. 16'56".			
	12-30	Truly awful ascent and descent to advance a few hundred yards; valley here narrows to V-shaped bottom, and must block up the stream; now ascend over left bank.			
		Bar. 17'85". River bed.			
	1-0	Bar. 16'75". Track, a 1-foot ledge, high up on the hill-side. (<i>See sketch No. 75.</i>)			
	1-30	River in a deep gorge.			
	1-35	Very steep descent.			
	1-48	Again in river bed; most heavy work amidst stupendous hills.			
		Bar. 17'2". Temp. 65° in holsters and 60° in air.	Down centre of river (bed in places 50 feet wide), and up a ledge along right bank.		
	2-30	Bar. 17'05".			
	2-35	Descend the deep ravine into a side valley of the main valley.			
	2-55	Down stream (130°)			
	3-6	Patch of grazing; ascend side valley; a few tamarisk bushes afford fuel.			
	4-0	Camp; grazing and a stream.			
	5-0	Bar. 16'9". Temp. 62° in holsters and 55° in air.	Lake; 500 yards between hills; a little grazing; roots for fuel all along the valley.		
16	5-10	MURGHI DARAH	22½	313½	Camp; 10 hours; a heavy day; the valley is one of detritus, surrounded by hills holding up masses of ice in the upper ravines and ice-topped.
		17th August. Bar. 17'0". Temp. 37°. Elev. 15,500'.	These are capital ponies, quite as good as mules; mules are not used generally between Yarkand and Leh; they should breed them at Yarkand.		
	A. M. 7-0	Up the valley.			
	7-15	Descend through cleft in hills.			
	7-28	Descent steep, and narrow at the bottom.			
	7-40	Bar. 17'25". Temp. 46°.	Down pebbly bed of stream: 100 feet to 100 yards wide; between cliffs of rock; shingle very spongy.		

ROUTE NO. 11—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	A.M. 8-40	Up stream. We reach the main stream and wait for ferryman. Halt 2 hours, 20 minutes. Valley 500 yards wide; 1 small boat.			
		Bar. 17'34". Temp. 55°.	Avalanches are held up in the ravines; talus of shingle.		
		SHEOK RIVER . . .	Boulders of hornblende, felspar; some rocks of greenstone; mica generally wanting. (See sketch No. 76.)		
	11-0	Re-start; up ravine.			
	11-30	Camp; halt 15 minutes. We drag our weary limbs up the winding ascent, fairly gradual, passing towards the summit over fields of snow; at summit pass over the stony, undulating top of the mountain, covered with snow-fields.			
	P.M. 2-20	Bar. 15'65". Elev. 17,800'.	Summit of Sasir pass.		
	3-45	Pass over stony, undulating under-features between high ranges.			
	4-15	Patches of grass, and spaces for camps.			
17	7-15	TOTI AILÁK . . .	17	330½	Camp. A basin of shingle, surrounded by avalanches and snowy mountains, and intersected by water-courses; shockingly bad road; heavy, stony, and steep. I wonder how the ponies managed it. I could scarcely get over it. $6\frac{1}{2} \times 2 = 13$ } = 17 miles. $1\frac{3}{4} \times 2\frac{1}{4} = 3\frac{1}{2}$ }
		Bar. 16'2". Temp. 62° in holsters and 55° in air.	No firewood or roots, and little grazing.		
17		18th August. Bar. 16'25". . . .	Leave camp; snowing. Descend a ravine, undulating over under features and slopes of diorite, felspathic rock and sand, skirting lakes of snow and ice and avalanches; a fearfully bad and hateful road.		
	A.M. 8-30	A little grazing on valley sides.			
17	9-30	TOTI AILÁK . . . Bar. 16'95". Temp. 63° in holsters and 48° in air.	Grazing. Caravans halt here a day as a rule to graze animals.		
	9-50	At the head of the valley; we now descend it; 2 to 3 miles off in its upward prolongation is a huge glacier valley, bordered by stupendous snow-clad hills.			
	10-30	Bar. 17'6". Temp. 73° in holsters and 58° in air.			
	10-48 P.M. 12-5	A scramble, along stony left bank of stream. Cross the stream by a 25-foot tree bridge, and continue down the valley amongst huge masses of rock; diorite. Can one conceive anything worse? The ledge, leaving the valley, climbs and undulates terribly, is rocky in places, and eventually passes over the hill. Halt 20 minutes.			

ROUTE NO. 11—continued.

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	P. M. 3-10	KARAWAL DAWÁN .			Top of hill, Karawal Dwán. Elev. 15,300'. Bar. 17'1". Temp. 71° in holsters and 65° in air. Fearful pull. Halt 20 minutes. Enough to take the heart out of man and beast. O humanity! we might have kept to the river's level, but rather than go to the expense of bridging and blasting a road down stream, coolies have been set to scratch a way over the hill. Oriental government!
	3-40	Bar. 17'65" . . .			Camp; poor grazing. Very steep descent; at times a winding rocky staircase for 100 feet at a time; both sides of hills of felspathic sand and rock.
	4-45	Small spring.			
	5-20	Patch of grass.			
	5-35	Bar. 19'9". Large. Bar. 20'0". Temp. 65°. Elev. 11,200'.			Arrive; bed of Nubra river.
18		CHANGLUNG . . .	20	350½	Cultivation of Changlung; a few huts. Tent flooded during the night by overflow of an irrigation channel!
18					19th August. A transition from death to life; valley ½ mile broad, of shingle, through which the river flows in many channels, the bed resembling those of the rivers on the other side of the Sasír range, in the heart of the Himalayas, traversed during the past three days, of spongy shingle. Oases of willows, wheat, and barley, occur at intervals under the hill-sides, formed out of the felspathic sandy soil of the lower skirts by the hill streams; some larger, some smaller. Barley in ear, 2 feet high.
	A. M. 7-45	Large Bar. 20'065".			
	8-15	Steep dark-brown cliffs border the valley, in places snow-clad; their sandy skirts at times force the river into narrow limits.			
	8-50	Ford the river skirted yesterday, coming out of a narrow cliff, probably 100 feet deep in places; sides of perpendicular rock; cliffs of diorite; weathered; felspar and granite; little mica; hornblende; rough bridge of stones and trees over river, 20 yards bed, 100 feet deep, 200 feet broad; banks conglomerate; abutments, built out on boulders of loose stones; the frost shatters the cliffs into immense blocks; track a good one.			
	9-45	A series of oases on right bank.			
	9-50	Bar. 20'1". Temp. 90° in holsters and 73° in air. Elev. 10,900'.			
	10-10	Kishlak Kurut on left bank.			
	10-31	Large oasis on right bank; valley ¼ of a mile broad.			
	11-0	ISPANGA . . .			Enter extensive oasis; soil, felspathic sand and clay; grass and cultivation; trees; road, a lane 10 feet wide; thorn hedge; willows, rose trees; barley, ripe. Apricots, poor and unripe.

ROUTE NO. 11—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter-mediate.	Total.	
	P.M.				
	12-30				Down valley looking like a lake, so broad is the shingle bed of the river.
	12-38				Cross the wide bed of a stream flowing in many channels. Halt 30 minutes.
	1-0	PANIMEK			Village; track over the hill skirts, of sand; river from 200 to 400 yards wide; rapid current. Temperature of air (shade) 83°; hot sun. Fan-shaped oases continue along the right bank.
	2-15	Oasis.			
	2-30	Soil cultivated.			
	2-55	A track amongst stones; oasis half a mile to right.			
	3-15	Village. Women wear plaited tails. They are dressed in rags and tatters, and sheep-skins. Tatters of various colours. Trees and shade; pass over hill-spur; many long tombs sacred to Buddha. (<i>See sketch No. 77.</i>)			
	3-50	Bar. 19.85". Elev. 11,250'.			
	4-30	Village. Over sandy skirts of hill.			
	5-0	Large shrubbery; village on hill on opposite bank.			
	5-20	Oasis.			
Badakshán, Shignán, Roshán, are hilly but fine countries; fruit abounds; pishtar, walnuts, apples, pears, &c. Many trees, and rain plentiful; hills of clay; pasture abounds; fine sheep, of immense size, cost R2; here very minute goats. Afgháns very oppressive; their cantonment is at Do-shamba. Russians on either side of Amudaryá there. The Badakshis hate the Afghans, who rob and oppress; Badakshan is described as a fine country like Kashmír; Khunduz described as a poor country.					
19	7-0	TUGHAR	24	374½	Bivouac in a damp orchard of apricot trees; 10½ hours. A large oasis.
19	A.M. 7-50	20th August. TUGHAR Bar. 20.4". Large Bar. 20.4". Temp. 55°.			People very poor; too thick on the soil; a number of brothers may take one wife, or a man may take several; plenty of women; they do all the work; miserable looking scraggy creatures. Bhots, very different from those beyond the Himalayas.
	8-30	The river here forms a wide elbow and lake (10,900').			
	8-45	The ravine running up at 45° leads to Baltistán; it is bad road, unfit for horses; coolie carriage used; a foot-man gets to Baltistán in 11 days; poor hilly country, with but one good bazár.			
		A growth of tamarisk; track over sand.			
	9-0	LAGHJUM-KISHLAH.			

ROUTE NO. 11—*continued.*

No. of Stage.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	A.M. 10-45	Oasis; valley half a mile broad. Our pace up till 10-30, 2½ miles; after, 2¾ miles an hour.			
	11-20	Leave oasis and skirt river under its right bank; high cliffs; river flowing against us,— <i>i.e.</i> , it is an affluent of the Nubra, main stream which turned off to right at the elbow.			
	11-45 P.M.	Stony track.			
	12-40	Enter a shrubbery.			
	1-30	Bar. 20'15". Temp. 108° in holsters.	Over deep sand.		
	1-45	Enter a thorn shrubbery; large stream.			
20	2-0	SATI	16	390½	6¼ hours.
		Bar. 20'1". Large Bar. 20'1". Temp. 80° in air (shade) and 100 in holsters.			
20	A.M. 6-30	21st August. Track over sand.			
	7-15	Arrive ferry; 2 boats; halt 2 hours, 25 minutes.			
		Bar. 20'2". Large Bar. 20'3". Temp. 60'. 6 to 7 miles off; tamarisk growth along banks; hill slopes perpendicular; valley half mile broad; boats 3 × 5 feet; rough passage; difficult to get horses to take to the water.	Rapid current; river 200 feet wide; flush banks, bouldery and sandy bed; horses swim over; a snow-topped hill closes the valley up stream on line 140°.		
	9-40	Enter gorge, 400 yards off, at 10-20. Up ravine 150 yards wide; stony track along its left bank; patch of cultivation.			
	10-45	Camp; no grazing; firewood.			
	11-15 P.M.	A fair, made, pack-track, through bushes and over boulders.			
	12-20	Heavy ascent.			
	1-20	KHARDUNG	8½	399	Arrive top of plateau.
		Bar. 18'45". Temp. 85° in air and 90° in holsters.			
	6-30	Small village. Temple; barley cultivated.			
21		Large Bar. 18'5". Temp. 65°.			
21	A.M. 5-30	22nd August. Bar. 18'32". Baggage laden on yaks. Ponies go unladen.			
	6-0	Track leads up left side of ravine.			

ROUTE NO. 11—concluded.

No. of State.	Time.	Names of Towns, Villages, Rivers, &c.	DISTANCE IN MILES.		DETAILS.
			Inter- mediate.	Total.	
	A.M. 8-20	Bar. 17'1". Temp. 50°.			Camp. Easy gradient generally to this; grazing.
	10-30	Bar. 16'35". Temp. 60°.			Steep ascent begins over snow.
	11-30	Bar. 15'64". Elev. 17,600'.			Top of Khardung pass. Steep descent.
	P.M. 1-0	Bar. 17'15".			
	2-20	Temple and a few huts.			
21	3-0	Small village. Cultivation 300 yards wide.			
	3-45	LEH Bar. 19'55". Large Bar. 19'55" (6 P.M.; 19'45"). Temp. 65° (cloudy). Elev. 11,600'.	20	419	Ten hours. At Leh reside British and Kashmir Joint Commis- sioners. (See Part I.)

APPENDIX.

BAROMETRICAL READINGS, HAMI TO KARASHAHAR.

TAKEN BY LIEUT. YOUNGHUSBAND.

READING AT KUEI-HUA-CHENG WAS 26°10' IN BEGINNING OF APRIL. HEIGHT 3,506'.

(Compare these observations with those made by COLONEL BELL at Hami, Toksun, and Karashahar.)

1887.	Place.	TIME.		Barom-eter.	Thermo-meter.	
		Arrival.	Departure.			
8th July.	Hami . . . . .	...	2 P.M.	27°00"	90°	
9th "	Village of Eurh-pu	4-20	...	26°90"	66°	
" "	Ditto . . . . .	...	2-30	26°87"	96°	
" "	Sau-too-lin-tzu	11-30	...	26°13"	80°	
10th "	Ditto . . . . .	...	2-30	26°07"	96°	
" "	Lian-tung	10-30	...	25°30"	86°	
11th "	Ditto . . . . .	...	2-20 A.M.	25°30"	68°	Thermometer broken.
" "	T-wang-chwen	9 A.M.	Halt.	24°39"		
" "	Che-ku-lu-chwen	7-15 P.M.	...	24°39"		
12th "	Ditto . . . . .	...	4-40 A.M.	24°51"		
" "	Twan-yeu-kow	12-10	...	26°50"		
13th "	Hsi-yang-chê	3-20 A.M.	...	26°55"		
" "	Ditto . . . . .	...	12-40	...		
14th "	Shi-ga-tai	7-20 A.M.	...	25°51"		No readings, as thermometer broke.
" "	Ditto . . . . .	...	3-25	27°70"		
" "	Pi-chau	1-30 A.M.	...	28°20"		
15th "	Ditto . . . . .	...	1-40 P.M.	...		
" "	Liang-ming-ching	8-15 P.M.	...	28°20"		
16th "	Ditto . . . . .	...	1-45 A.M.	28°50"		
" "	Lang-ching-kow	7-55 A.M.	...	29°38"		
" "	Ditto . . . . .	...	2-0	29°48"		
" "	Turks' house	8-15	...	...
17th "	Ditto . . . . .	...	3-15	29°00"		
" "	Turfán . . . . .	...	...	...
18th "	Ditto . . . . .	...	5-10	29°00"		
" "	Inn	11 P.M.	...	28°18"		
19th "	Ditto . . . . .	...	3 A.M.	29°18"		
" "	Toksun	8-30	...	29°34"		
" "	Ditto . . . . .	...	3-40 P.M.	28°28"		
20th "	Ditto . . . . .	...	5-30	28°34"		
" "	Ditto	6-0	...	25°82"		
21st "	Ditto . . . . .	...	5-25	25°82"		
" "	Kumesha . . . . .	...	...	26°58"		
22nd "	Ditto . . . . .	...	3-0 P.M.	25°46"		
" "	Yu-fu-kow	9-35	...	25°05"		

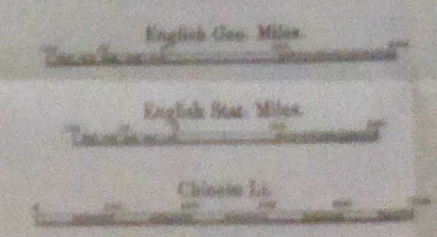
1887.	Place.	Time.	BAROMETER.		
			1,316.	1,319.	
23rd July .	Yu-fu-kow	4-30 A.M.	...	25°05"	
" "	Ush-ta-lê	2-30	...	25°72"	
" "	Ching-shui-kow	4-30	...	27°73"	
24th "	Karashahar	7-45	...	25°95"	No barometer taken.

From Karashahar no barometer readings were taken, as the route had been previously surveyed by Russians as well as by Colonel Bell.

F. E. YOUNGHUSBAND.



RECONNAISSANCE MAP
OF
NORTH & SOUTH-WESTERN
CHINA.



REFERENCES
Double line of Railway
Main Road
Clear Road