VI.—*Report of "The Mirza's" Exploration from Caubul to Kashgar.* By Major T. G. MONTGOMERIE, R.E., Gold Medallist R.G.S., Deputy Superintendent Great Trigonometrical Survey of India.

Read April 24, 1871.

THE present report will be chiefly confined to the explorations made by the Mirza in Central Asia, beyond the Hindoo Koosh, Mustāgh, and Karakoram ranges, which may be considered as a continuation of the great Himalayan system.

In carrying out my plan for exploring beyond the frontiers of British India by means of Asiatics, I have always endeavoured to secure the services of men who were either actually natives of the countries to be explored, or who had at any rate the same religion as the people, and who had been in the habit of travelling or trading in the said countries. Acting on this principle when the exploration of the Upper Oxus and Pamir Steppe was proposed, a search was made for a suitable native of some part of Central Asia. After a search in the Peshawur Bazaars, where men of nearly every tribe in Central Asia are to be found, and after applying to several of our frontier officers, it was found to be by no means an easy matter to get a proper man; any number of men are willing to volunteer for such a service, and, if their own accounts are to be believed, they are all well fitted for the task, but a very little inquiry however reduces the number of likely men nearly down to zero: many cannot write, others are too old, most have no ideas beyond those of trade, and nearly every one has special ideas as to what pay and rewards they are to get, and generally have special stipulations to make; all, however, apparently thinking nothing of the risks and exposure involved. The subject having been once broached, these men are difficult to get rid of, and fortunately in this present case negotiations were not entered into with any particular individual until a final decision was arrived at.

An itinerant silversmith seemed to be a likely man, as he was in the habit of making a round from Peshawur through Central Asia, starting *viâ* Caubul and returning through Yarkund, passing from city to city, and supporting himself by working up silver and gold into ornaments. Owing to the demand for men of his craft, there is no difficulty in their moving through Central Asia, but before any proposal could be made to this man he had started off on another trip, and it was consequently decided that a trial should be made with a former employé of the Survey, generally known as the Mirza, who was qualified in some respects. He had, as before stated, a partial English education, his father was

Map of the Route from

BADAKSHAN

across

THE PAMIR-STEPPE

to

KASHGAR

with the Southern Branch of the

UPPER OXUS

from the Survey made by the Mirza in 1868-69

to accompany the Paper by

Major T.G. Montgomerie, R.E., F.R.G.S.

English Miles 5 10 20 30 40 80

Geographical Miles 5 10 20 30 40 80

The Mirza's Route

70 71 72 73 74 75 76 77 78 79

39 38 37 36

Artush (pain)
Tomun R.
Mosh (in ruins)
Kozil R.
Koja Afak
KASHGAR (Old City)
Yanga Shahr (New Town & Fort) 5200
Tawarak R.
Faizabad R.
Gharghiz
Kazil R.
Tazgon R.
Opechan
Jolak R.
Suldak
Kosran R.
Sikhli
Korsa R.
Yangi Hissar 5100
Yangi Hissar R.
Lungar
Sughet Bolak V.
Kulpan V.
Karawal (Kathai)
Taplak V.
Sughet
Tumorra V.
Kila Karawal
Kodak (well)
Aghiz Gah V.
Kazil V. (Military Post)
Chumlak
Samandchol Desert
Kodak (well & Mosque)
Koki Robat V.
Talunghiz V.
Karawal
Opiai Canal
Urgund V.
YARKUND 4000
Boghet
Yarkund R.
Posgam
Ail Kachi
Nagai V.
Chohar Bagh V.
Chukjum V.
Kuchi
Alguz Bagh
Kargalik
Busharik
Borah
Oitughrak
Kiliyan R.
Koshtagh
Lungur
Sanju or Araklik R.
Low Pass
Sanju
Logház Doga
Kizil Agil
Karakushmak
Ruzluk
Tam
Tashkur Pass
Kirghiz Khirga
Sanju or Grim Pass
Road from Kiliyan
Tegrasu R.
Karawal
Karakash R.
Shahdula Khoja
Sugetsu
Karakash R.
Road to Changthang
Kirghiz
Kichik Dawan
Marsh
From Karakul
Shukrab Kirghiz
Sirikul R.
Sirikul Tashkurgan 10.980
Jangalak Willow & Grass Jungle
Kandar Valley
Road to Kanjut
Aktash 12.900
Road from Kokshan & Alai Valley
Woods 15.600
Sirikul Lake
Pamirkal Lake or Barkat Yassin 13.300
Ruins
Road to Kanjut
Road to Karang on Hunza
Kipchak
Keen
Keen Valley
Ilchin
Charling Valley
Kotul
Chahul Station
Charling
Aksul
Road to Yarkund
Kila Punja
Pakui
Zimmus
Sharghin
Razlhan
Kighur
Sis
Ware
Baba Tungi
Patur
Dest-e-Iman
Waste
Road to Lunghar used in summer
Kotul
Lunghar Commencement of Pamir Steppe 12.200
Road to Kanjut
Road from Chantali
Kundoodi
Wargung
Pagish
Dregund V.
Upper Oxus R.
Shekurb
Warkhan
Road to Chitral
Kiel R.
Ishkashim 10.800
Gowdar V.
Small Ishkashim
Patora
Gazdoi V.
Kaotpuk
Bhuzghiran
Sirdi Khan
Sungoo
Kotlar
Road to Gharan
Zebak
Wooden Bridge
Sheva
Yerdeo
Rosta Khan
Chokaran
Valley Akdara
Komall V.
Basund V.
Teergharan
Sanad Dand
Kamch
Robat 2nd
Gowkhana
Robat 1st
Dashti Arak
Robat Br.
Rahshan
Robat Br.
Shahwali
Jerm
Shukrab
Chamdik
Zoodkhan
Kotul Raizkhan
Argu V.
Botash
Faizabad 5100
Kokcha R.
Chohar Dara
Oxus or Amoo Darya
Mines of Lapis Lazuli
Chitral
Yassin
Hunza
Nagar
Gilgit
Haramosh 24.183
Glacier
Mustagh Pass
Karakoram Range
Karakoram Pass 18.317
Jangalak
Surfo Luggo
Parong
Moni Branse
Tsokar
Shaktoke
Spantik
Road to Yarkund
22.736
22.333
22.586
25.370
25.050
19.232
24.094
24.579
25.490
25.548
24.472

PAMIR KALAN
PAMIR KHURD
PAMIR STEPPE
ALAI-KIRGHIZ
KASHGAR
YARKUND
CHARLING
KUNJUT
SIRIKUL
YASSIN
GILGIT
BADAKSHAN
CHITRAL
WAKHAN
Hindoo Koosh Range
Mustagh Range

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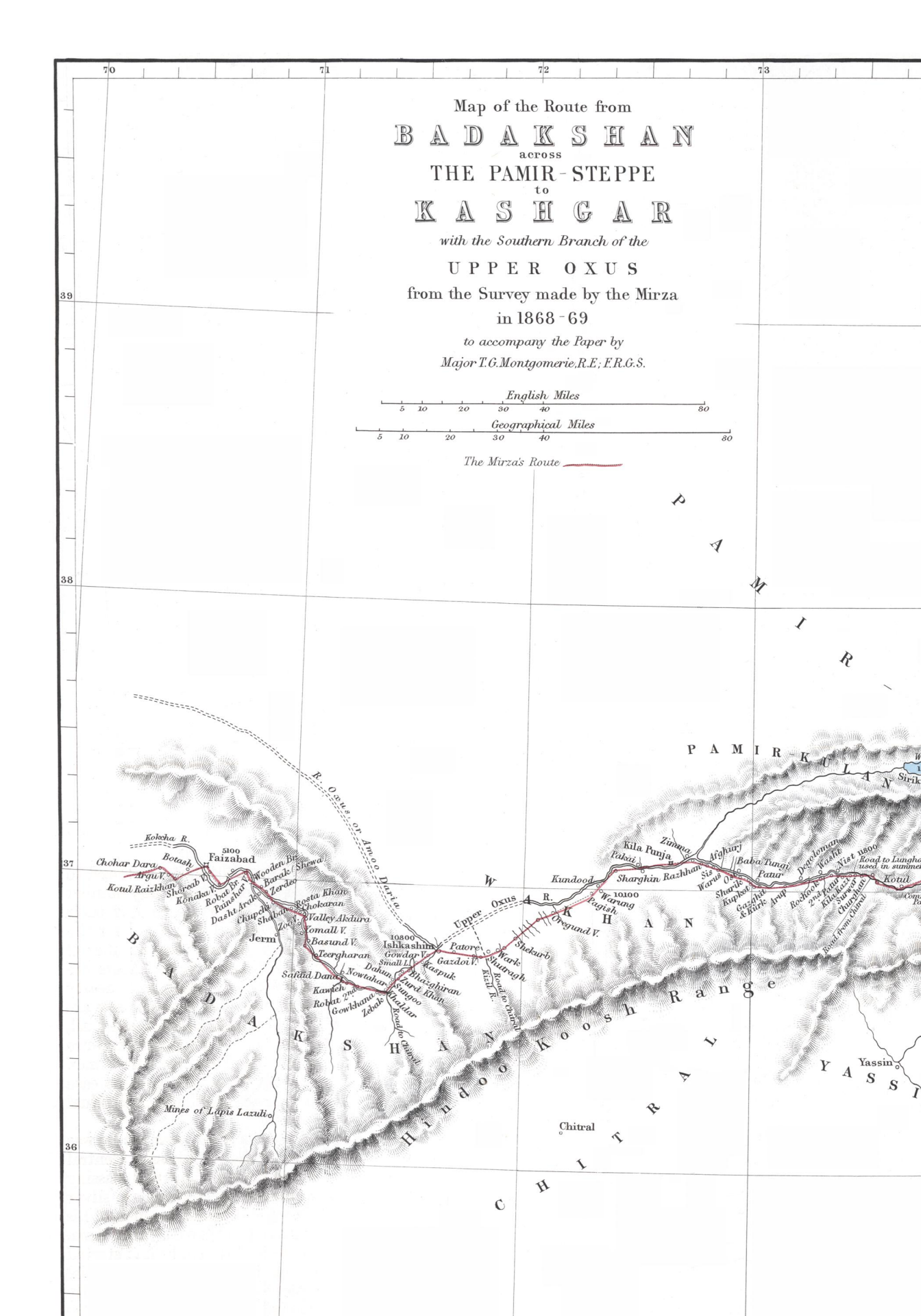


74
75
76
77
Artush (pain)
Tamun R.
Koja Afak
Mosh (in ruins)
Kozul R.
KASHGAR
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Kipchak
Koki Robat V.
Talunghiz V.
Karawal
Urgund V.
Boghet
Keen Valley
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13600
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Kotul
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Akul
Road to Yarkund
Shukrab Kirghiz
Chichik Dawan
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From Karakul
Sirikul R.
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10.986
Kandar Valley
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Jhanglak Willow & Grass Jungle
Road to Kugiut
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12.900
STEPPE
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Sirikul Lake
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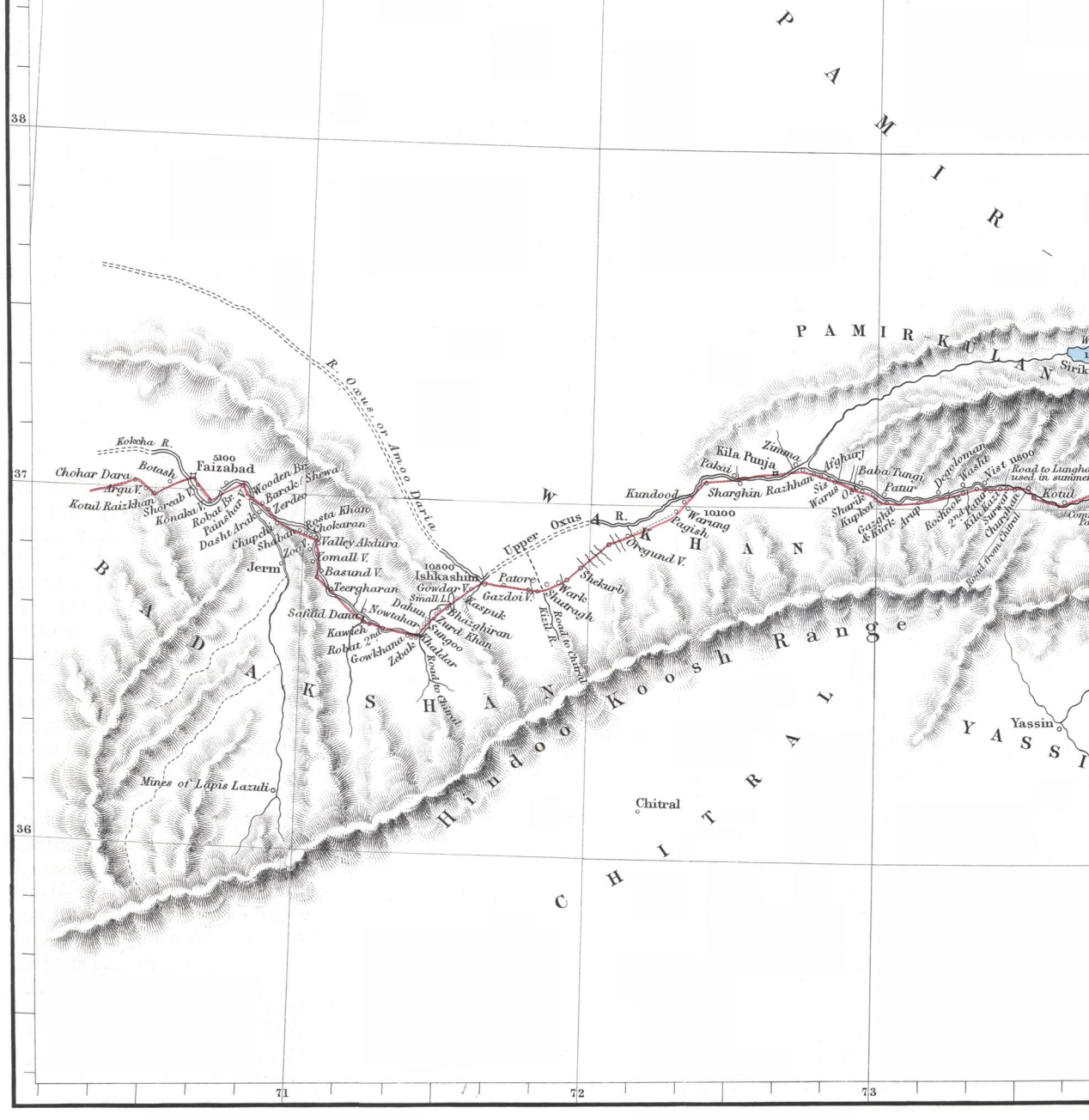

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a Turk of Meshed engaged in trade, his mother a native of Persia; the Mirza himself was born in Persia, and understands both the Persian and the Turkish languages. His father's trade took him to Herat, and there he was in some way connected with Major Pottinger when defending that city. His son, the Mirza, made his way down to India, and managed to get some education through the kindness of various British officers. He was consequently in many ways fitted to carry on explorations, and at one time he had moreover been employed on survey work near Peshawur. Subsequently he had spent a great deal of his life in Caubul, &c.

Returning to India when the Amir Sher Ali was dethroned, the Mirza had nothing to do, and was consequently glad to get employment on a surveying expedition. He was brought down to the Survey Head-Quarters, and, having done nothing in the way of surveying for many years, was put through the regular course of training for explorers, and then sent up to Peshawur at the end of 1867. He was directed to make his way into Badakshan by the Chitral route, if possible, or by any other route that was feasible, and from thence to explore the Upper Oxus, the Pamir Steppe, the routes to Kokan, Kashgar, &c. Owing to the lateness of the season he was unable to go by Chitral, and for various reasons was unable to get to Caubul by any of the ordinary routes. After trying several routes he had to go down the Indus to Sukkur and thence by the Mālā Pass to Khelat in Beloochistan.

From Khelat he made his way to Candahar, arriving there just as the Amir Sher Ali's forces captured the place. He was allowed to accompany the Amir's army during its successful advance upon Caubul.

Owing to the disturbed state of the country the Mirza was greatly delayed, and had much difficulty in getting out of Caubul. After many disappointments he succeeded in starting for Badakshan in October, 1868.

From Caubul he made his way northwards over the Hindoo Koosh range by the ordinary route to Bamian, and thence down to Khulm Tashkurgan, a town about 20 miles from the river Oxus. From Khulm he marched eastward through Badakshan, following the route that runs 20 to 30 miles south of the Oxus as far as Rustak. Thence he followed the course of the Kokcha River, a great tributary of the Oxus, then crossing from the head of the Kokcha Valley, he passed over into the valley of the Upper Oxus, first meeting that great river at Ishkashim, from thence marching up the stream nearly due east, he reached the Punja fort in Wakhan.

His march up to Punja had been trying, as it was made during

midwinter. Snow fell very often and added not a little to the Mirza's troubles, but as villages were forthcoming at each halting-place, none of the party were much the worse for the journey. The Mirza's servants had however got rather mutinous, and he consequently was subjected to the usual fate of explorers in having to contend with a course of camp intrigues, and all its resulting annoyances. Up to this point, Punja, on the Upper Oxus, the Mirza's journey can be followed and tested by the route of the intrepid explorer Lieutenant Wood, of the Indian Navy. Nearly every point can be identified, and, with the exception of some few variations near Faizabad, the routes are identical. The Mirza's work agrees pretty closely with Lieutenant Wood's, and his positions of the chief places differ but little from those of Wood; Punja itself being by the latter in lat. 37° 2′ and long. 72° 41,'* and by the Mirza in lat. 37° 5′ and long. 72° 39′; a very close agreement, bearing in mind that the points referred to may have been some miles apart, there being no means of determining exactly the respective points where the observations were taken.

In referring to the Mirza's explorations at the end of my last year's report, I stated that he had made his way from Badakshan through the Upper Valley of the Oxus to Wood's Sirikul Lake. This, however, as will be seen below, was a mistake; it should have been to the Pamir-kul Lake, on the southern branch of the Upper Oxus, Wood's Sirikul Lake being on the more northerly branch of the same river. The mistake arose from the Mirza stating that from Punja he had gone to a lake a few marches beyond Punja, and then on to Kashgar. As soon as his work was compiled it was evident that it was another lake.

At page 331 of Wood's 'Oxus' he states that, "the Valley of the Oxus may be said to terminate at Issar, to which point from Ishkashim, in lat. 36° 42′ 32″ N., its direction is E. by N. ½ N. The latitude of Issar is 37° 2′ 10″ N., and its height above the sea 10,000 feet. Here the main valley divides into two, which, when a little beyond Kila-Panj, bore respectively E. 20° S. and N. 40° E. The former, we were told, conducted into Chitral, Gilgit and Kashmir, and the latter across the table-land of Pamir to Yarkund in China. I had now to ascertain, if possible, which of the two streams I was to trace. One of them, it was certain, must lead to the source of the Oxus, but which of the two was a question of difficulty. The Kirghiz had unhesitatingly told us that the object of our search was to be found in a lake upon the 'Bam-i-duniah,' or roof of the world in Pamir, and that the road to it was up the durah of Sir-i-kol; but though

* From his last set of Chronometric Observations.

the northerly direction of that valley, and of the countries to which it led, was, when compared with the Mastuch, as the Chitral durah is sometimes called, almost sufficient evidence in favour of Sir-i-kol, I thought it prudent to visit the junction of their respective waters. To my eye the stream of Sirhad, as the river from Mastuch is frequently called, appeared the larger, but the Wakhanis held a different opinion. That from Pamir was divided into several channels, and frozen, so that its aggregate volume could not be well ascertained, though from a clearing in its principal stream I inferred its velocity to be double that of the Sirhad, while its temperature was five degrees lower, being 32°, and that of the other 37°. It seemed a singular circumstance, but certainly confirmatory of the superior height of the source of the river Pamir to that of the other stream, that it should be sheeted with ice to the very point of their junction, whilst the Sirhad was unfettered by the frost, and had a slower current and a higher temperature. According to my informant, the Pamir branch in summer brings down much more water than the Sirhad, though the latter has many tributaries, and the former but two trifling rills, those of Langer Kish and Zerzamen."

The Upper Oxus, which flows past Punja, is formed by two streams which meet just to the east of Punja. From Punja onwards the Mirza's route diverges from that of Lieutenant Wood, who took the northern branch of the Oxus, whilst the Mirza followed the more southerly branch.

Lieutenant Wood, from looking at the two branches, had, as will be seen above, come to the conclusion that the southern branch was the larger of the two, and from the Mirza's route it would appear that Wood's eye had judged correctly. The southern branch is considerably larger than the other, and it is fed by several large tributaries, whilst the northern one has hardly any, and those all small. Wood's guides, however, insisted that the northern was the main branch, and it appears that its source is higher than that of the southern one, and hence, probably, the reason why the northern branch was frozen and the southern one not frozen when Wood saw them. Whichever may have the honour of being the main source of the Oxus, there is no doubt but that the two combined form the Upper Oxus River, and as Wood had explored the northern, it is fortunate that circumstances should have made the Mirza explore the southern. We have now got both, and can account for nearly all the drainage of the Upper Oxus.

At Punja the Mirza had great difficulty in arranging for crossing the Pamir Steppe. The Mir of Wakhan gave him a pass, and ordered certain men to accompany him; but it was only after bribing this petty Mir and his officials that he could

get the order acted on. Then his guides frightened his servants by the worst stories they could invent as to the cold and hardships of the route, and the danger of being caught by either the Kirghiz or Kunjúti robbers. The Mirza was now at about 10,000 feet above the sea, and, being winter, snow was constantly falling. This alone was sufficient to make his servants troublesome, and what with the intrigues of the Mir's officials, and the guides' stories, they became very mutinous; but at last, after dismissing these old guides, the Mirza was able to make a start on the 14th January, 1869. For three marches, as far as the village of Patur, the party did not suffer much from the cold, as they could always get shelter in a village. Beyond Patur they were informed there were no villages for eight marches, and provisions had to be carried with them.

Fortunately the extreme cold enabled them to carry meat on their ponies, and, as far as food was concerned, they were pretty well off. The party, however, suffered very much from the cold; it snowed every day, and they had generally to sleep on the snow. After the fourth day they reached the watershed of the Pamir Steppe, between Wakhan and Eastern Turkistan. The rivers were all frozen, and the source was evidently a small frozen lake, called Pāmir-kul or Barkūt Yāssin. The ice of the lake and the flat ground around were covered with snow, and the Mirza could not consequently decide exactly where the lake ended and the land began; however not very far to the east of the lake the fall of the country to the eastward was quite perceptible.

This Pamir Lake is about 13,300 feet above the sea. The Mirza thinks that some of its water flows to the west, and some to the east; but, as all the streams were frozen, this cannot be considered as established. As far as my experience goes, no lake in the Himalayas has two exits, nor do I think that it is common elsewhere; and indeed I know of but one case of the kind where a small pool has two exits, and it is obvious that if there is any great flow of water, one exit will probably be cut quicker than the other, and eventually become the sole channel.

The watershed of the Pamir Steppe is, however, close to the Pamir Lake. The Mirza descended gradually from it, and after four long marches found himself at Tashkurgan (Stone Fort), the capital of Sirikul, which is only 10,986 feet above the sea; the stream which he had followed down had become very large, and was clearly flowing eastward towards Yarkund.

The last four marches were an improvement, but there was still a great deal of snow on the ground, even round Tashkurgan. The Mirza was now in the Atalik Ghazi's territory, his troops

having, however, only taken possession of it about ten days before the Mirza arrived. The Governor in command decided to send the Mirza on to Kashgar under a Kirghiz escort; but fortunately a certain amount of liberty was allowed him, the Kirghiz knowing very well that he could not run away.

From Sirikul the Mirza marched down to the main Sirikul River, which he crossed on the ice; he then made his way over the Chichik Dawān Range by a very high and steep pass, covered with snow and ice, probably about 15,000 feet above the sea. After five very hard marches over snow, the party arrived in the Keen Valley; each day they halted at a Kirghiz encampment, and got shelter in one of the tents. From Keen three more long marches over snow took them to the small town of Yangi Hissar, and two marches farther north brought them to the new town, or Yanga Shahr, of Kashgar, about five miles south-east of the old city of Kashgar.

The Mirza arrived at Kashgar on the 3rd of February, 1869, after a most trying march, snow actually falling during the last two days, and lying pretty heavily on the ground.

The Mirza had carried on a route survey from Caubul to Badakshan, and thence to Kashgar; the bearings being taken with a good prismatic compass and the distances measured by pacing, the Mirza and two or three of his men relieving one another in doing so. They carried a string of beads in their hands, dropping one at every 100 paces, and having a large bead at every tenth to represent a thousand feet.

Observations for latitude were taken of the sun and stars at various important points, such as Caubul, Khulm, Faizabad, Sirikul, Kashgar, &c. These latitude observations can be compared with those of Griffiths and Wood as far as Punja; the results generally agree within two or three minutes, quite as close as could be expected, considering that no two explorers are likely to observe from the same point—Caubul, for instance, being, with its outskirts, a straggling place, running two or three miles either way, and everything depending upon what point is referred to. Though the Mirza's observations are not very first-rate, yet still, judging from the points common to him and to Griffiths and Wood, as shown in Appendix, it may be concluded that the latitudes of new points, such as Sirikul and Kashgar, are within about five minutes of the correct latitudes.

As to longitude, the new values must depend upon the accuracy of the Mirza's pacing, as the route runs too much east and west to enable the latitudes to act as a very strict test for the whole.

The longitude of the starting-point, viz., Caubul, has been derived from former maps, on the authority of Lieutenant (now

Sir Henry) Durand, and Lieutenant (late Major) Anderson, both of the Bengal Engineers, viz., E. 69° 5′ 5″. The Mirza's latitude of Caubul has been accepted, as his measurements start from his point of observation. From Caubul his route to Khulm, running mostly to the north, has been used in combination with the Mirza's latitude of Khulm to determine Khulm, giving lat. 36° 37′ N., long. 67° 47′ E. for that place.

The value of the Mirza's mile, as tested by the difference of latitude between Caubul and Khulm, is 0·15 in excess of a mile, about the amount that a mile, as measured on a rough up and down road, crossing the great Hindoo Koosh Range, might be expected to differ from a mile measured on flat ground at the level of the sea. It is, of course, difficult to say how much of this difference is due to the number of the Mirza's paces, viz., 2300, that have been assigned to the mile.

From Khulm to Kashgar, a distance of about 500 miles, there is not sufficient northing to determine the value of his mile; it was consequently decided to determine Kashgar from Yarkund, which had already been fixed by another explorer. Taking Yarkund as in lat. 38° 20′ N., long. 77° 30′ E., and using the Mirza's route for distances and bearings, and his latitude of Kashgar, it appears that 39° 26′ and 76° 16′ is the position of the new city, and lat. 39° 29′, long. 76° 12′, for the old city of Kashgar.

I must note here that the Mirza carried his route survey on to old Kashgar, which he visited three times, and has consequently been able to give some description of that ancient city. Messrs. Hayward and Shaw had not the opportunity of visiting the old city, owing, I suppose, to the suspicions of the Atalik. The Mirza only got there by bribing his guard, which he, no doubt, was able to do more easily than a European, and probably with less risk. The Mirza's position of old Kashgar is, therefore, as yet the only one, from this side of India, that has been derived from actually visiting the place.

Some error has been made in the Royal Geographical Society's 'Proceedings'* as to Mr. Hayward's values, as it is there stated that the old and new city are in the same meridian, and though said to be only five miles apart, yet the one is given as differing from the other by ten minutes of longitude. Judging from Mr. Hayward's map, 76° 10′ is the longitude he assigned to both new and old Kashgar. Both he and Mr. Shaw state that the old city is due north of the new town; but the Mirza having gone there and giving a bearing of 312° (or 48° west of north), the latter has been adopted in deducing the longitude of the old city.

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* Page 69 of vol. xiv., No. 1, of Royal Geographical Society's Proceedings.

The value of the Mirza's miles, tested by the difference of latitude, shows it was 0·07 in excess—the excess being, as was to have been expected, less than that found on the rough road between Bamian and Khulm; the roads between Yarkund and Kashgar being, on the other hand, very fair and almost level. Taking the positions of Khulm and Kashgar, as determined above, it appears that the direct distance between them should be 494 miles; the Mirza's measurement gives 484 miles, taking the miles as equal to 2300 paces, showing that each of his miles is about 0·02 in defect, or in other words, showing about 2 per cent. of error.

From this it may be concluded that, on an average, the assignment of 2300 paces to the mile is tolerably correct; but as the pacing was done by three or four men relieving one another, and it is not known how much each individual did, it is impossible to deduce much from the comparison of the pacing of any one portion with another, but, viewed as a whole, the pacing appears to have been good, and, considering the mountainous nature of the country, the many marches over snow, and the fact that the Mirza was for a considerable portion of the time under a sort of open arrest, with people watching him, it is surprising that such good results have been obtained.

The positions of the chief places between Khulm and Kashgar have been deduced by applying the above correction to the Mirza's distances, giving as follows, viz.:—

	Latitude.	Longitude.	Height.
	° ′	° ′	
Khulm (Tashkurgan)	36 37	67 47	..
Kunduz	36 45	69 4	..
Rustak	36 59	69 51	5,100
Faizabad	37 2	70 36	5,100
Ishkashim	36 45	71 38	10,800
Punja	37 5	72 39	..
Pamir Lake, or Barkūt Yassin	37 14	74 18	13,300
Sirikul (Tashkurgan)	37 44	75 13	10,986
Yangi-Hissar	38 58	76 26	5,100
Kashgar, Yanga Shahr, or new town	39 26	76 16	5,200
Kashgar old city	39 29	76 12	..

I had wished to have got another independent value of the longitude of Yarkund, but the Mirza only carried his route survey from Yarkund to Shahdula, on the Karakash River. He did not carry it farther, as he was under the impression that the route up to that point had been regularly surveyed. This, however, was not the case, Shahdula not having been connected with the trigonometrical stations on the Karakoram, as expressly

stated by Mr. Johnston (who made a rough sketch of that portion), and in consequence having been put to the east of its proper position.

Had the Mirza carried on his route survey to the Karakoram, his work would have supplied full data for testing the position of Yarkund; as it is, his route to Shahdula gives 187 miles out of a total of about 240 miles. I have consequently had the said 187 miles computed out, and taking the accepted longitude of Yarkund, viz., that from Hameed, I find that the Mirza's route would put Shahdula in about five or six minutes to the west of Hameed's longitude of the same point, showing but a small difference, and in no way sufficient to throw any doubt on the substantial accuracy of Hameed's work.

In deducing the positions of unknown places from the surveys of my explorers, I have always been careful to use places with established positions as starting-points, and I have refrained from using the materials of previous, or of other explorers, unless I was aware how their measurements and observations had been made, and considered that the results were likely to be good; I have, however, always closely examined all other available materials in order to see and inquire into any differences between them and those of my own explorers.

In the present instance I have examined the material supplied by Messrs. Hayward and Shaw. Mr. Hayward, in a route supplied to the Punjab Government, gives the distances between Leh and Yarkund, and makes the distance from Yarkund to Shahdula 190 miles, the Mirza making the same 187 miles—an immaterial difference, as variations in the route, which are known to be numerous according to the state of the rivers, would easily cause much greater. Mr. Hayward does not state how he measured his distances, and gives no bearings; he, however, observed for latitude at Yarkund, and in the Royal Geographical Society's 'Proceedings'* has stated that his resulting position of Yarkund agrees practically with that which I have deduced from my explorer's work.

Mr. Shaw has also supplied a route from the Karakoram to Yarkund. He gives both distances and bearings. He states that his distances were measured in tashes of about 12,000 paces each, the length of a tash having been estimated by pacing a tash, and the number of tashes on the whole route having been estimated by timing, based on the time it took to traverse the measured tash; a tash being a measure used in Eastern Turkistan, which is assumed to be about five or four and a half miles in length. Mr. Shaw, judging from his map, has also

* Page 65 of vol. xiv., No. I.

retained the latitude and longitude deduced from my explorer's work.

No bearings being available from Mr. Hayward's published statements, it was impossible to examine his results any further. Mr. Shaw, however, supplying bearings as well as distances, it has been possible, by assuming the latitude of Yarkund to be 38° 20′, to compute out the position of Yarkund with the G. T. Survey value of the Karakoram Pass as an origin. This has been accordingly done, and with the above latitude Mr. Shaw's route would put Yarkund in about long. 77° 27′, agreeing practically, in fact, with the value I have deduced from Hameed. The same computation, however, shows that the longitude of Shahdula would be somewhat to the east of Hameed's longitude of the same place, and, judged by that, Mr. Shaw's route would have a tendency to make Yarkund more to the east, too.

From the above, it will be seen that, there are no grounds for altering the longitude I have assigned to Yarkund, and that on the other hand there is a great deal to show that the said longitude, viz. 77° 30′, is substantially correct; I have consequently decided to adhere to it. No doubt some alteration will be required when the distances and bearings have been regularly measured with a chain, and when the latitude has been determined by a practised observer; but the alteration will probably be but small, judging from the data at present available. The longitude of Kashgar would, of course, be altered by the same amount.

The heights depend upon boiling-point observations, but they are not numerous, and, owing to breakages, depend upon inferior thermometers; and, consequently, cannot be considered final. They, however, give a fair approximation to the comparative heights of the various places.

The Mirza, unfortunately, had not had much previous practice in the use of thermometers; and, owing to the great delays in commencing his route survey, had, to a certain extent, forgotten the instructions given to him at the G. T. Survey Head Quarters. A greater number of observations at each large place would have been of much value, and, no doubt, given a better average; but what with the disturbances in Afghanistan, and the anxieties of his journey, the Mirza forgot this, and his latitude observations suffered to a smaller extent from the same cause, and another very important point, viz. bearings to distant peaks, was entirely neglected.

This latter, however, may not be entirely due to the delay in putting his lessons into practice, as I have observed that all of the explorers have done but little in that way on their first

expedition, being too busy trying to secure everything connected with their actual route, and thinking but little of peaks in the distance; the Mirza in this instance being of opinion that there was little necessity for bearings to distant peaks, as his route actually led him over the highest ground, an opinion, however, which I cannot altogether concur in, as I know that some of the high peaks determined by my Trigonometrical Survey operations were within 40 miles of the point where he crossed the Pamir, and some, with a little extra observation, would, no doubt, have been seen.

The recognising of distant peaks from different points of view is, however, a difficult thing, and requires a considerable practice before success can be secured; it is consequently easy to excuse the Mirza's omissions in this respect.

The Mirza's route gives us another determination of the great watershed which separates Eastern Turkistan from the basins of the Indus and the Oxus, viz. the Pāmīr-kul Lake, which comes between the Mustagh Pass (the most westerly point actually on the watershed determined by my survey operations) and the Sirikul Lake of Wood; and this new determination confirms the opinion that I have held for many years, that the said watershed continues to run north-west from the Mustagh,—a conclusion which I came to from the positions of many gigantic peaks fixed by the survey to the north-west of the Mustagh, which peaks, though probably not on the watershed, doubtless indicate its general direction. From the Changchenmo east of Leh to the Mustagh, the general line of the watershed is about 35° north of west, from the Mustagh to Wood's Sirikul it is about 38° north of west, and the same line would nearly run through the Pāmīr-kul. Further to the north I am not inclined to think that the general direction of the watershed alters very rapidly.

The Mirza in marching from Sirikul to Yangi-Hissar passed some very high peaks to the west of his route. These are some that have been seen by Messrs. Hayward and Shaw when they went to Kashgar. The peaks are no doubt closer to Yangi-Hissar than the watershed given in Colonel Walker's map of Turkistan; but, judging from the position of the great Himalayan peaks with reference to the main watershed all the way from Assam to Little Tibet, the chances are in favour of the main watershed being very considerably behind, or to the west of those peaks. Such has almost always been found to be the case when surveyors have been able to fix the Himalayan watershed.

I consequently conclude the watershed north of the Sirikul Lake, will not require to be moved much more to the east than

is indicated by the alteration in the position of Kashgar. The Tarik Pass, on the said watershed, is known to be 11 marches, say 150 miles west of Kashgar; that, and the size of the rivers near Yang-Hissar and Kashgar, coming from the west, all tend to confirm the above.

The position of Kashgar, deduced from the Mirza's work, is to the east of the position assigned to it in the map of Turkistan, an alteration which I had anticipated many years ago when trying to fix the longitude of Yarkund, the probability of its being further east being great.

The positions assigned to the chief places in Eastern Turkistan may now be considered to be accurate enough for all general geographical purposes. The alterations made in their positions are very remarkable. About ten years ago, judging from the results of my survey of the Karakoram and Mustagh ranges, I ventured to conclude that the positions assigned to places in Eastern Turkistan by Humboldt in his 'Asie Centrale' were not in accordance with the more modern information collected in British India.

Humboldt's positions being founded on those by the French Jesuits, I concluded, (*vide* vol. xxxvi. p. 168, of Geographical Society's Journal,) that Yarkund was considerably to the east of the position derived from the Jesuits. This was subsequently confirmed by one of my explorers, Mahommed-i-Hameed; and at page 169 of the same volume, I published a table giving the positions as they then stood. A glance at the table which I re-introduce below, with the additions up to this date, will show how they now stand, viz:—

Name.	By the French Jesuits as in 'Asie Centrale.'		By Schlagintweits.		By Capt. Montgomerie, from Hameed.		By Capt. Montgomerie, from his Explorers.		Remarks.
	Latitude.	Longitude.	Latitude.	Longitude.	Latitude.	Longitude.	Latitude.	Longitude.	
Yarkund . .	38 19	76 16	38 10	74 10	38 20	77 30	38 20	77 30	Khotan from Mr. Johnson.
Ilchi (Khotan)	35 50	80 33	36 50	78 20	37 37	78 57	37* 7	79 24	
Kashgar . .	39 25	73 57	39 15	71 50	39 25	75 21	39 29	76 12	
Sirikul (town)	..	..	..	..	38 10	75 39	37 44	75 13	

Hameed, the first of my explorers, visited Yarkund; and up to this date, as shown above, it appears that the position of Yarkund, derived from his observations, is practically correct; but in deducing the position of Kashgar from Hameed's bearing,

* As stated in pp. 228-229, No. III. of vol. xiv. of the Royal Geog. Society's Proceedings.

&c., I erred, as may be seen above, in not putting Kashgar still farther to the east; but as it was, I had put it farther to the east than the correction to Yarkund suggested, and I did not feel warranted in shifting still farther the position of a place which had not then been actually visited by my own explorers, and whose position had been given by the Jesuits, who were said to have visited it.*

With reference to Sirikul (Tashkurgan), which, as far as I know, had not been previously fixed, the position I derived from Hameed's bearings, &c., is a very good approximate one, as tested by that from the Mirza, who visited the place.

As far as Kashgar is concerned, I notice that the Russian explorers have come to the conclusion that the old value of the longitude would require an alteration of about 2° to the east; this would put Kashgar in long. 75° 57′, or 14′ west of the longitude I have adopted. This determination is, however, stated to depend upon only one point, which was fixed astronomically, viz. the western extremity of the Issikul Lake, which may itself require altering.

Baron Osten Sacken says that he was informed that Kashgar was to the east of Artush, he, himself, being at that time, according to the Kirghiz with him, within 8 miles of Artush and 20 miles of Kashgar. I am glad to be able to confirm the information given to the Baron; the Mirza went out from Kashgar 3 or 4 miles on the road towards Artush, and he found the general direction of that place to be 20° west of north from Kashgar at a distance of one day's march, or 13½ miles. If the Baron Osten Sacken's route is now, or hereafter, well connected with properly-fixed positions to the north, it is to be hoped that he may be able to give us the position of Kashgar, as derived from the Russian side.

The alterations in the positions of Kashgar and Yarkund in a great measure explains why Marco Polo in crossing from Badakshan to Eastern Turkistan went first to Kashgar and then to Yarkund. With the old positions of Yarkund and Kashgar it appeared that the natural route from Badakshan would have led first to Yarkund; with the new positions and guided by the light of the Mirza's route, from which it is seen that the direct route to Yarkund is not a good one, it is easy to understand that a traveller might prefer going to Kashgar first, and then to Yarkund. It is satisfactory to have elicited this further proof of the general accuracy of the great traveller's account of his journey through Central Asia.

* There can be no doubt that the Pp. da Rocha and Espina were at Yarkund and Kashgar with the Chinese army in 1759. See 'Lettres Edifiantes,' Rec. xxxi. pp. 241–248, and 'Ritter,' vol. vii. pp. 346, 522.

The climate of Kashgar seems to be somewhat colder than that of Yarkund, probably owing to its being farther north and somewhat higher than Yarkund. It is also healthier, the Yarkundies suffering from the effects of impure water. Goitre, moreover, is very prevalent in Yarkund, while it is unknown in Kashgar, possibly because the Yarkund River rises from among glaciers, goitre being often common where glaciers are numerous.

The account given of the Atalik Ghazi, the present ruler of Yarkund, is a curious one; according to the Mirza, the Atalik is a good soldier, and generally believed to be so by people about him. I, however, could learn nothing to prove this—he appears rather to be a bold intriguer.

As far as the expulsion of the Chinese from Eastern Turkistan is concerned, it was in the first instance effected by the Kūchāri and Tungāni chiefs with their men who formed the great part of the Chinese auxiliary troops. These men mutinied in consequence of the oppression of the petty Chinese officials, a tax on every adult male being apparently the final provocation. After a good deal of severe fighting they got the upper hand and shut up the Chinese in their forts. As soon as their success was known, numbers of armed Mahommedans, dubbing themselves as Ghazis, flocked in from Kokhan, Andijan, Badakshan, &c., and the Chinese were completely cut off from China Proper. The Chinese had sent messengers to ask for reinforcements, but owing to the state of Kūchār, a mountainous country towards China, reinforcements were not sent. The Chinese garrisons, after holding out for a year, and getting no help, resolved to give in. The chief officials, Ambans, &c., were said to have blown themselves up after spitting towards Pekin, while the common Chinese, to the number of about 2000, consented to become Mahommedans, and were after the usual rites released.

Wali-Khan Khoja took possession of Kashgar while the Kūchāri chief took possession of Yarkund. The new rulers were, however, not popular, and the Atalik, who had been sent to assist the Mahommedan Ghazis in reducing the Chinese, was able, by well-planned intrigues, to make Wali-Khan leave Kashgar and fly to the mountains; Yarkund after that fell into his hands without firing a shot. The Atalik then marched towards Khotan, which had fallen into the hands of Haji Habbiboollah Khan; he invited Habbiboollah to a conference, and disposed of him by the simple expedient of treacherously murdering him, and all his male relations. The latter, according to the Mirza, were included, so as to prevent any disagreeable consequence in the shape of a blood feud, male

relations being bound to revenge the murder of one of their family.

The Atalik having thus disposed of all rivals, secured the undivided control of all Eastern Turkistan, &c., and he then, for the first time, assumed the title of Atalik, which means father-like. From the Mirza's account, the Atalik is not very popular; his petty officials seem to oppress as much as those of former rulers, and the respect in which he is held depends mostly upon his devotion to Islam, and his want of scruples in other matters. Except that there is at present no other rival in the horizon, it might be supposed that his reign would not be a very long one. Already we hear of his having to take the field against the Tungānies, and it is probable that similar outbreaks may occur elsewhere. The Government of Eastern Turkistan therefore can hardly be considered to be a very stable one.

The country generally between Caubul and the Oxus appears to be in a very lawless state; slavery is as rife as ever, and extends through Hazara, Badakshan, Wakhan, Sirikul, Kunjūt, &c. A slave, if a strong man, likely to stand work well, is, in Upper Badakshan, considered to be of the same value as one of the large dogs of the country, or of a horse, being about the equivalent of Rs. 80. A slave girl is valued at from four horses or more, according to her looks, &c.; men are, however, almost always exchanged for dogs. When I was in Little Tibet, a returned slave who had been in the Kashmir army took refuge in my camp; he said he was well enough treated as to food, &c., but he could never get over having been exchanged for a dog, and constantly harped on the subject, the man who sold him evidently thinking the dog the better animal of the two. In Lower Badakshan, and more distant places, the price of slaves is much enhanced, and payment is made in coin.

The Khirghiz tribes, though looking after their herds and flocks, seem to plunder without much check, while the Kunjūtis carry on highway robbery as a regular profession, doing very little else, and consequently being the pest of all Kafilas, which, unless large, are apt to fall a prey to them. There is some delicate distinction between the Khirghiz and the Kunjūtis, the latter being always made out to be the worse pest of the two.

I have studied Kunjūt from the southern side of the Mustagh, and was interested to get a few further details about it, as gathered on the northern side of the range. From what I have heard, I make out that Kunjūt was originally a small territory south of the Mustagh, on the great eastern branch of the Gilgit River; it was generally known as Hunza, or Hunza-Nagar, from two small towns on the said branch. The Hunza people were

always noted for their plundering incursions into Little Tibet, appearing suddenly above Shigar by a very difficult road, which the survey operations have proved to run over a glacier nearly 64 miles in length, *i.e.* over 30 miles of ice on each side of the pass.

They also poured down on the Yarkund road north of the Mustagh, probably by a similar route; for, whenever the rulers on either side tried to punish the Kunjūtis, the troops were entirely baffled by the difficult roads, there being apparently no easy entrance. The Kunjūtis, in their fastnesses, continue to defy every one, but they have latterly extended their territory to the north of the range, and now occupy several districts on the more westerly branches of the Yarkund River, and so far are, perhaps, more vulnerable than formerly.

The Ruler of Kunjūt seems to have amicable relations with neighbouring states; the Mirza passed a Vakil from Badakshan, on the Pamir, who was going to Hunza, the capital.

The Kunjūtis are said to be a very intelligent set; they are better educated than most Mahommedans, and many of them are said to go to Kashmir, Badakshan, &c., in order to complete their education. They are all Shiá Mahommedans. The Government is probably well established, as I know they have a mint, having in my possession a few well-stamped coins of various sizes made of gold, mixed largely with copper; the coins have the word Gujanfur on them, the name, I suppose, of some emblematic animal.* I was, however, unable to find out its meaning.

The Kunjūtis appear always to get the better of the Khirghiz, having taken possession of the huts of the latter near Lunghar, &c.; this superiority no doubt is due to their greater intelligence. They appear to be a much more warlike set than their neighbours in Gilgit and Little Tibet. I understand there is some distinction between the men of Hunza and those of Nagar, though only separated by a river; the Nagaris are said to be the milder set of the two. The troops of the Maharaja of Kashmir have overrun Gilgit, but I believe no serious attempt has been made by them to subdue Kunjūt, even as far as the part south of the Mustagh is concerned, and yet the route from Gilgit up the river must be a tolerably easy one. The reason why the Kunjūtis have been let alone is, no doubt, the knowledge that they would be a tough enemy to subdue, and a very difficult people to hold in subjection. They have at times given a great deal of trouble on the borders of the Maharaja's territory, and had it been easy to bring them into subjection, it would, no doubt, have been done long ago.

* Perhaps *Ghăzănfăr*, which the dictionaries give as an Arabic term for a lion.

The limits of the area which the Kunjūtis can occupy are now pretty well defined, and they cannot well have more than 9000 square miles; more than half of this area must, however, be uninhabitable, owing to its great elevation, including as it does some of the highest peaks on the globe, ranging from 20,000 to 28,300 feet above the sea, with many enormous glaciers ranging in length from 10 to 32 miles, forming, in one place, a continuous mass of ice 64 miles in length, the largest glaciers in fact known out of the Arctic regions. The survey operations have given the positions of all these peaks, and enabled us to determine that of Hunza-Nagar itself to be in lat. 36° 15′ N. and long. 74° 43′ E., which is probably correct within two or three minutes. The Hunza-Nagar Valley is a high one, though the towns are probably not above 6000 or 7000 feet. The people are said to have but little cultivation, and to live chiefly on meat and dried fruit. The farther elucidation of the history of this remarkable tribe is a desideratum as they seem to differ from all others around them.

The Valley of Sirikul or Sirikol, as the Mirza pronounces it, has hitherto been only known by hearsay; it is apparently a fine valley, quite walled in with mountains, and having little more than a gigantic chasm, viz. the Tangitár, for the exit of its river.

In my first memorandum as to the position of Yarkund, I stated that Sirikul was supposed to be the stronghold of Afrasiab; the Mirza heard the same story; and the great extent of its ruined stone fort, Tashkurgan, proves it to have been a place of importance, possibly as a refuge in case of disaster. It was not ascertained whether the builder of the fort was the actual conqueror of Persia or one of his descendants,—Afrasiab being a family name, it is of course doubtful.

Of the countries bordering on the Mirza's route, various pieces of information were collected. Kafiristan seems to be in much the same state as at the beginning of the century, the people being still independent, and apparently not diminished in numbers, though their children are much sought after as slaves. The number taken away cannot therefore be very large. The Siyaposh Kafirs are said to be troublesome on some of the roads.

Mustooch and Chitral evidently have a tolerably easy communication with Badakshan, as the Mir of the latter manages to extract an annual tribute from the chief of Mustooch. The road from Mustooch to Chitral is said to be a good one. The Mirza's work clears up several obscure points as to the route between Chitral and Pamir. The Mirza was unable to go by Kolab towards Kokhan owing to the road being in the hands of the Aliman Khirghiz; this, however, was supposed to be merely

a temporary interruption. Various routes were noted as branching off towards the Karakul Lake and Kokhan. The Mirza did not hear much about Yassin, though several routes to it were pointed out, which explains the general run of the mountains between it and Wakhan, &c.

As to Pamir, it appears to be an elevated tract of country broken by rounded hillocks, which rise but little above the lowest ground. The Mirza thinks the word Pamir is derived from the Turkish word Pa (belongs) and Mir (chief), implying that it belongs to the chief of Badakshan. He says that he never heard the term Bam-i-Dunya applied to it, though he thinks that it may have been used figuratively. Bamian, however, he says, he understands is a corruption of Bam-i-Dunya. Various allusions are made to the Alai Valley or steppe occupied by the Alai Kirghiz, which will assist in defining the valley.

The Kirghiz hordes seem to be very numerous, and still adhere to a nomadic life. Their occupation of Sirikul is probably only temporary, as the Mirza says they detest being tied down to any one place, and are very unwilling to undergo the drudgery of agriculture. Probably when they have consumed all the stores of the exiled people of Sirikul they will abandon it. The men take temporary service with the Kashgar, Kokhan, and Badakshan chiefs, but they are not willing to submit to much discipline, and change from one party to another without the least hesitation. The Kirghiz have large herds of horses, camels, cattle, yaks, sheep, &c.

The Mirza got some information as to the routes to the Russian frontier, which were given to him by various individuals. The height of the hills to the north of Kashgar, towards Artush, &c., does not seem to have impressed him much. Routes were also got towards Aksu, China Proper, &c. Some of these will be given in the Appendix.

Both at Kashgar and Yarkund he heard of the great forest or jungle which begins 3 or 4 marches east of Kashgar and north-east of Yarkund. The jungle is said to be very extensive and very heavy, so much so that single men are in great danger from wild animals. The animals are probably wolves and leopards, but the men questioned by Mirza declared that tigers were numerous, and the description give of them was unmistakeable. Tigers, I understand, have been seen in other parts of Central Asia, so it is perhaps possible.*

The most able man in the Atalik Ghazi's service is probably

* The tiger (real and royal) is abundant even in parts of the Amur Valley (see 'Journal of the Royal Geographical Society,' vol. xxviii. pp. 420, 424, 441); in the 'Delta of the Jaxartes' (*ib.* xxiii. pp. 95, 97); and exists, it is said, also in Mazanderan, south of the Caspian.—H. YULE.

Mohammed Yunas (Jonas), the Governor of Yarkund. He is better educated than any of the others; and is, indeed, the only man upon whom the Atalik implicitly relies. His education may easily be better than that of any other, for the Mirza says that there is no one about the Atalik that can even keep accounts, the government of the country dispensing with accounts altogether.

The Jemadar, Nubbi Buksh, is a remarkable man, but the Atalik does not entirely rely upon him. He is, I believe, the same man that Abdul Majeed saw at Kokhan, who was known there as the Lahore Jemadar, and was much thought of, holding a large command in the Kokhan service. This man's history is curious. He started in life as an ordinary gunner in the Sikh service, and after the defeat and breaking-up of the Khalsa Army, his fortunes seem to have fallen to a very low ebb. He at last got service in the Peshawur Magazine as a classie, probably on 5 or 6 rupees per mensem. In 1855, on the Mirza's recommendation, he went to Kokhan, and from that time his rise appears to have been very rapid, as in 1861 Abdul Majeed found him in high command at Kokhan. The Jemadar must be an able man, otherwise he would not have succeeded in holding his own so long. He appears to have been very ungrateful to the Mirza, and was evidently much annoyed at his arrival; this, as far as I can gather, was, in a great measure, owing to his thinking that the Mirza would tell everybody as to his low origin.

There were several Hindustanis, and a good many Afghans, who seem to be held in considerable repute as soldiers. These probably include a few of the Mutineers of 1857, but I should doubt there being many of the same stamp as the Jemadar among the Hindustanis. The Mirza did not think that any others of the Atalik's officials were in any way remarkable. The Atalik appeared to be very self-reliant, acting almost always on his own judgment, and seldom consulting any one but the Governor of Yarkund.

We have been told that the people of Yarkund are well educated, but it is only in a very restricted sense that they can be considered to be so. The Moolahs apparently only teach the boys to learn to read and repeat from books by heart; the Mirza says they none of them understand beyond a few words of the Persian or Arabic in which the few books read by them are written. They repeat like parrots the Koran, &c., without understanding any of it. Figures and accounts are utterly unknown among them, the Atalik's accountant having to count by means of beads.

The Mirza noted the size of the rivers between Kashgar and the Karakoram. The Yarkund or Boi River appears to be the

largest, and evidently drains a great area, and it is a puzzle to think what can become of its great body of water. Flowing rapidly past Yarkund, which is only about 4000 feet above the sea, it must very soon get pretty close to the level of the sea, and there is evidently no chance of its getting out of Asia into the sea. It would be a great thing to get this question solved satisfactorily, and a further attempt will be made to do so.

That the country to the east is very dry seems to be established by the constantly hazy atmosphere. This haze was noticed by Mr. Johnson. It increases with a strong east wind to such an extent as to make it dark at midday. A country subject to such a perpetual fall of dust is a curious fact, and certainly points to a large dry desert tract.

The expulsion of the Chinese seems to have put an end to all traffic with China Proper, and the Atalik's quarrel with the Kokhan Government seems to have checked the trade with Russia; consequently, it would appear that there is at present a better chance for the introduction of British goods and Indian tea than there has ever been before.

The Mirza's Route Survey extends from Sukkur to Khelat, from thence to Candahar and Caubul, a distance of about 950 miles; but as this is not new ground, and Route Surveys of it were, I believe, made formerly, it is not given in detail here.

From Caubul to Punja and Wakhan, and thence to Kashgar and Yarkund, the length of his Route Survey is 1042 miles. This portion is tested by 48 latitude observations at fourteen places. About 350 miles of it is entirely new ground, and consequently forms the most valuable portion. In addition the Mirza did 187 miles from Yarkund to Shahdula (Suget)—the total Route Survey being 2179 miles. The height of 28 points have been determined by boiling-point observations between Caubul and Kashgar, giving a good general idea of the comparative height of the mountains and country traversed.

The new portion of his Route Survey between Punja and Kashgar, Yarkund, &c., accounts approximately for the geography of about 18,000 square miles of hitherto totally unexplored country, and the portion between Caubul and Punja clears up a number of obscure points in the travels of Wood, Abdul Majeed, and other travellers.

Considering that the Mirza entered Afghanistan when it was in utter confusion, that he was consequently much delayed in carrying out his instructions, that he made his journey from Badakshan to Kashgar in mid-winter over the highest mountains in the world, it is highly creditable to the Mirza that he has done so well. The credit is greater as Kashgar could hardly be considered in a settled state, Sirikul, the first district of Kashgar

met with, having only been annexed within a few days of the Mirza's arrival, he having actually met the Ex-Ruler of Sirikul to the west of the Pamir flying from the Atalik's troops. The discretion of the Mirza seems to be established by the fact of his having made his way through such difficult countries when in such a disturbed state. As the Mirza has in such a large measure carried out the instructions given to him, I am glad to be able to bear testimony to his good service.

Details of "The Mirza's" Route, drawn up from the original Journals, &c., by Major T. G. Montgomerie, R.E.

Travelling in disguise, the Mirza took the well-known road from Caubul to Bamian, crossing the Pugman mountains by the Gardan-i-diwar, or Unai Pass, and the Hindoo-Koosh Range by the Hajiguk Pass, 12,200 feet above the sea. Though with an ordinary Kafila, he was very nearly being sent back to Caubul, but the frontier guards were eventually passed with the assistance of a few presents. He found the Helmund River to be about 40 yards wide, and flowing easily at the point he crossed.

From Bamiān the Mirza made his way to Khulm-Tashkurgan. The Kafila caught sight of some portion of Azim Khan's troops, but managed to keep out of their way; but farther on they fell into the hands of robbers, who wounded two Hindoos and carried off a considerable amount of goods and animals, apparently with the connivance of the commandant of the fort near which the Kafila had halted for the night. The country passed through was very fertile. The inhabitants own large herds of horses and cattle, flocks of sheep, &c.: every village boasts of a well-stocked orchard.

The Mirza was very glad to arrive safe at Khulm, as he was greatly afraid that if he had fallen into the hands of Azim Khan's troops he might have suffered as a supposed friend of Amir Sher Ali. The extent of the ruins of old Khulm seem to have struck the Mirza very much. The Khulm bazaar was filled with the wildest reports as to the Afghans, and the progress of the Russians. The river Oxus is said to be visible from the top of the Khulm fort, called Tashkurgan, the river being about 20 miles to the north.

The inhabitants of the country between Caubul and Khulm are mostly Shiá Mohammedans, looking to Agar Khan of Bombay as their spiritual guide; they are a very lawless race, and much addicted to highway robbery. Slavery is common in that country and in the whole of the Hazara territory. Agar Khan is said to be a pensioner of the British Government: he is a Persian. His influence is said to be very great between Caubul

and Khulm, as also in Badakshan, Wākhān, Chitrál, Kunjūt, Kāshgār and Yarkund. In order to maintain his influence, he sends his agents from time to time to travel through those countries. Tashkurgan (Stone Fort) is about three miles in circumference; it has weak mud walls without any ditch, but is considered quite strong enough to resist any sudden incursion of the Alimān Khirgiz tribe, who sometimes penetrate into the country. The town is regularly built, and is intersected by small canals: the population is composed chiefly of Ozbucks, Tājaks, and Caubulies, all wearing large quilted chogas, turbans, and boots. A great many shops are kept by Hindoos, who appear to have a large share in the trade of Bokhara, Kokhan, Kundūz, and Badakshan. There are regular market days every week.

At Tashkurgan the Mirza fell in with a traveller in Asiatic dress, whom the natives all considered to be a European. The Mirza was inclined to agree with them, judging by the man's complexion, figure, &c., and was very nearly confiding his story to him; but, as the conversation began in Persian, the Mirza was able to judge of the stranger's command of that language; and as the man made use of the guttural letter "ghain" with as much correctness as a native, the Mirza determined not to trust him, knowing that very few Europeans ever succeed in quite mastering the proper sound of that letter. From what he heard afterwards, there was very little doubt but that this individual had been sent to try and find out what the Mirza's business really was.

The Mirza was fortunate enough to hear of a large Kafila that was going to Kundūz, with an escort of about 150 horsemen. The escort seemed to be in great dread of the Alimān Khirgiz, and, according to the Mirza, would have been of very little use in case of a real attack. From Kundūz the Kafila went on to Talakhan, passing Khanabad, which is said to be as healthy as Kundūz is notoriously unhealthy. The ruins around Khanabad showed that it had formerly been a large place. Rostak was the next place of importance, the Kokcha River being crossed on the road to it. This river has a rapid stream, and was crossed by the men on rafts, the baggage animals swimming. A more direct road runs from Talakhan to Faizabad, to the south of the Mirza's route; but he could not follow it, owing to the disturbed state of the country. Whilst at Rostak, the Mirza made inquiries as to the route to Kokhan *viâ* Kolāb and Karatagheen, which he had been directed to follow. His host, to whom he had been recommended, said that the route was quite unsafe, owing to the general disturbance of Turkistan, and more especially to the incursions of the Alimān Lokhai Khirghiz, who had lately revolted against the authority of the

Meer of Kolāb. The Mirza at first doubted the accounts given as they were largely mixed up with wild rumours about the Russians; but, soon after he arrived, a number of brood mares, colts, camels, sheep, &c., which had been taken from the Alimān tribe, were brought in and put up for sale, and so he thought it necessary to wait till better news arrived. In the meantime, a heavy fall of snow occurred, and closed the Kolāb route altogether; and the Mirza had, consequently, to abandon his intention of following it.

On the 10th of December the Mirza left Rostak during a heavy fall of snow. Snow continued to fall, or, at any rate, to cover the ground, all the way to the city of Faizabad, that is, for four marches. This added very much to the difficulties of the Kafila, and their progress was consequently very slow. The Mirza's men began to grumble, and hinted that they would go no farther with him, &c.

Faizabad is the capital of Badakshan; it runs for about a mile along the right bank of the Kokcha River, and is nowhere more than half a mile in breadth; it has no walls, and its inhabitants are chiefly Tājaks and Turks, but they have not got Tartar features. Here the Kokcha River has a rocky bed and a deep rapid stream. It has three sources:—the first from the Hindoo-Koosh Mountains above Zebak; 2nd, from the Jerm Valley; and 3rd, from the small lake of Bhazghiran. The combined stream falls into the river Oxus (the Amoo Daria) about 35 miles west of Rostak, at a place called Dast Tārā Tuppa. The trade in slaves is still very great in and around Faizabad, the serais and houses being full of slave girls, who have mostly been procured from Chitrál; horses and goods are given in exchange for them. The inhabitants are skilful in smelting iron, and they send a number of cast-iron pots, pans, ornamented lamps, &c., to the market.

The Mirza found that, although he had the Meer's permission, his difficulties as to starting were by no means at an end. Throughout his journey various individuals had pretended to be acquainted with him, to know what he was going to do, &c., and at Faizabad he had to quiet one man who threatened to denounce him as an infidel (Kafir) that was spying out the country for the Feringees, &c. This man was evidently in collusion with the Mirza's servants, and he only got rid of him by means of presents. Then again, no regular Kafila was going across the Pamir Steppe, and the Mirza was forced to make an arrangement with one Abdul Wahab, the son of a Kafila Bashi, or caravan leader.

After a great deal of delay and anxiety the Mirza succeeded in starting off his six servants with Abdul Wahab, who supplied

six more men, including guides, making a total of twelve men. The party started in a snow-storm on the 24th of December, 1868, and followed the right bank of the Kokcha River. The road was very bad, and mostly unfit for riding; but the country round about was very well cultivated and exceedingly fertile. After five marches they reached the small village of Zebak, from whence there is a road to Chitrál. This route is said to be dangerous on account of the inroads of Siyaposh Kafirs; but still a considerable traffic is carried on by this route between Badakshan and Chitrál. The Mirza heard a great many stories about the Siyaposh and other Kafir tribes, agreeing generally with the former accounts given of these strange people, who have succeeded in maintaining their independence in spite of their warlike neighbours in Afghanistan, &c. Though the children of the Siaposh Kafirs are in great demand as slaves, and many are carried off by force, whilst others are sold voluntarily, still the number of these people does not seem to have diminished, and it must be concluded that the percentage carried off is not very great. At Zebak the Mirza parted with his guides, as he found they were constantly trying to frighten his men with stories as to the dangers and difficulties of the road. Abdul Wahab, who had been made Kafila Bashi, said he could get on quite well with his own men, and the Mirza left Zebak on the 1st January, 1869.

After crossing a pass, and subsequently a river coming from the Chitrál direction, he reached Ishkashm Fort, on the Punja or Upper Oxus River. Ishkashm may be considered to be the beginning of the Wākhān (or Wākāh) Valley. The country round about is very fertile, and crowded with villages.

From Ishkashm to Punja the road was but a badly-defined path, running up and down the intervening ridges—a route difficult in every way. Several villages were, however, met with; and the party got over it without much difficulty, though suffering a good deal from the cold. The Upper Oxus River was frozen so hard that it could be crossed at any point. The river is said to be in this state from December to March, and during the rest of the year it is dangerous to ford. This latter circumstance is undoubtedly one of the main reasons on account of which the winter is often chosen by merchants for crossing from Badakshan to Kashgar, and *vice versâ*; the other cause, and possibly a more potent one, being that the snow and cold induces the Kirghiz hordes to remove their cattle and sheep to a lower ground, and there is, consequently, less chance of a Kafila being plundered.

On his route to Punja, the Mirza met Alif Beg, the ex-ruler of Sirikul, who had just been driven out of his country by the

forces of the Atalik Ghāzi of Kashgar. Alif Beg had with him about fifty of his most trustworthy servants and slaves. He himself was well clothed in furs and mounted on a capital horse. He appeared to be much dejected by his misfortunes.

On his arrival at the Punja Fort, the Mirza was taken before the son of the Meer of Wākhān, and, on handing him the letter of the Meer of Badakshan, accompanied by a few presents, the Mirza was made welcome, and a promise was given as to assisting him across the Pamir Steppe.

Though the Meer of Punja promised to assist the party across the Steppe, and gave the necessary orders for twenty days' provisions and a guide to show the roads, it was no easy matter to make a start.

The Fort of Punja is considered to be a place of importance. It stands on a rising ground on the left bank of the Punja (or Upper Oxus) River. It is by no means a strong place, and has only a garrison of about 200 men under Meer Futteh Ali Shah, who is the hereditary chief of Wākhān. His revenue is derived partly from land-tax and customs duties, but mostly from a tax on the slave trade, and on actual slave dealing on his own account.

Having completed his preparations the Mirza left Punja on the 8th of January, 1869, and marched on to Patur, the last village of the Sarhad Wākhān or Wākhā Valley. At Patur it is necessary to purchase supplies for the onward route, not a thing being procurable for the next eight marches, whether the Kashgar or the Kokhan route is taken; any neglect as to a proper supply of provisions is likely to be fatal. The road to Patur was a bad one, running through a very narrow defile crossing the frozen Oxus several times during each day's march. In summer this route is said to be impassable. As far as Patur, for 42 miles from Punja, the country, though not very fertile as to crops, is well peopled, and there is no difficulty about good halting-places near villages. The extreme cold was the only hardship.

The Sarhad Wākhān Valley is bounded on the north and south by high ranges of hills, and up as far as Patur the lower slopes were still covered with flocks and herds.

Twenty miles beyond Patur, near Lunghar, the high hills gradually close in, and soon leave a very narrow gap for the passage of the river; farther on, the high northern hills merge into the comparatively low hills or knolls of the Pamir Steppe. The wealth of the Wākhān Valley mostly lies in live stock—in sheep, cows, goats, ponies, and yaks. The wool from these animals is worked up partly for domestic use, but mostly for export, being exchanged for other goods. The people all wear

thick woollen chogas and trousers, the cold being intense. Their houses are built of stone and mud with a flat roof. Each house has a large stove, or oven, as the Mirza calls it, in one corner, in order to keep it warm, and this it does thoroughly. The houses are generally built touching one another.

The inhabitants of Wākhān are generally Shiá Mohammedans, looking to Agar Khan of Bombay as their spiritual guide. They are said to pay him annually one-tenth of their income. The Mirza says that they complain very much of their own chief's oppression.

Everything being ready, the party resumed it's journey on the 2nd of January, 1869. Starting during a heavy snow-storm, they trudged along the Wākhān Valley. The wind was so piercing, even after the snow stopped, that the men had frequently to get on the lee side of their horses, so as to keep it off a little. For the first three marches, the path ran between a number of villages; the lower part of the river banks being covered with a dense growth of stunted willows, as the Mirza calls them, most probably the Myricaria. At the fourth halting-place, a road strikes off to Chitrál by Mustūch (or Mustuj).

Mustūch is said to be a valley draining into the Chitrál or Koonur River, the road to it from Wākhān is said to run for the most part through well-peopled mountains. The route is a short one, being about 15 marches to Chitrál, and, though much snow falls on the pass, the traffic along the route is considerable. Mustūch lies to the south of Wākhān; it is nominally independent, but its chief has to send an annual tribute of slaves to Badakshan, a fact which shows that the communication between the two countries is tolerably good. At this same halting-place a more direct road leads over the mountains to Lunghar by what is called the Marpech, or zigzag road.

The Mirza avoided the Marpech Road, as it was pronounced to be very difficult and dangerous during the winter, though it is used in the summer when the road along the river is impassable owing to the floods. The Mirza pushed farther on, up the branch of the Oxus, for four miles. The path was either on the frozen river or on its banks, passing through a very narrow ravine walled in on either side by stupendous and all but inaccessible mountains. These mountains were very imposing, being clad with snow almost down to the river, and leaving hardly 10 yards of level ground on either side. These mountains are not even fit for grazing in the summer; they are only noted for producing a breed of hawks or falcons which the hardy Wākhānis manage to catch among the cliffs. These hawks are much esteemed by the chiefs of Badakshan, Bokhara, &c. They are celebrated for

their swiftness, and known by their white colour. The Mirza saw a number of them on the hands of Shandar Shah's retainers the night he visited him at Faizabad.

Seven miles beyond the second Patur the party halted and were forced to sleep on the snow. Fires were made with wood from the low jungle, but a fall of snow soon put them out, and the party consequently spent a very miserable night.

The real difficulties of marching across the Pamir Steppe may be said to commence on the fourth day beyond Punja; the marches are long, and there is no shelter of any kind to be got except the dry stone walls, which previous travellers have run up in order to keep off the piercing wind. On the sixth evening the party arrived at the halting-place called Lunghar, from whence a road strikes off to the Kunjūt or Hunza territory, which lies to the south-east. Lunghar is considered to be the beginning of the Pamir Steppe; the halting-place has the usual dry stone walls, but they unfortunately had been taken possession of by the camp of an agent or Vakeel of Shandar Shah, who was going on some business to Kunjūt. Seeing that the only shelter available was occupied, the Mirza only stopped a few hours at Lunghar to collect fuel for the forward march. Having laden their ponies heavily, they started on again, but were not able to make much progress before evening; they halted near an isolated rock which afforded a little shelter from the wind. The whole party, on arrival, suffered a good deal from "Dum," as the Mirza calls it, *i.e.* shortness of breath, &c., the usual effect at great altitudes. The natives generally consider this to be caused by a noxious wind: some of the men became nearly insensible, but soon got over it when they had eaten a little dried fruit and sugar, which the Mirza served out as soon as he saw the state of affairs. The night spent at this sixth halting-place was a miserable one, owing to a fall of snow, and in the morning the men literally rose out of a bed of snow. The great cold had made both the men and ponies very sluggish, and the horses were several times affected by shortness of breath, the Wākhānis however soon relieved them by bleeding at the nose. The next march brought the party to the ruins of what had formerly been Khirghiz huts, which had been abandoned in consequence of incursions made by Kunjūti robbers. From this point there is a good road to Gilgit and Kunjūt. The night at this halting-place was, if anything, more trying than the last. The next morning they started early, and, relying on Abdul Wahab's two young men, they trudged along for nine miles, and were then suddenly brought to a stand-still, owing to their having lost the track which had been obliterated by the fresh snow.

The mountains from Lunghar had sloped off into rounded hillocks, and generally became so open that the travellers were not at all certain as to the route they ought to take. The party now found themselves in an open valley, some four or five miles wide; in it the Mirza made out a small frozen lake, which he estimated to be about two or three miles in length, but owing to the snow it was of course difficult to decide exactly as to where the lake ceased and the land began; a frozen stream issued from the western end, being in fact one of the sources of the Punja branch of the Oxus. The small valley was bounded on the north and south by craggy hills, rising up suddenly from the level ground. These hills are the summer haunts of both the Kirghiz and the Kunjūti robbers, who have temporary huts concealed in various places. It was a great trial to the party to be in doubt about their road in such weather, and in such a desolate place; the men scattered to search for the track, but the fresh snow made it a difficult task. The men's boots, made of thin spongy leather, had sucked up the moisture, and then had frozen, thus making all walking about very trying. The day advanced without their finding the path, and the men were getting disheartened, when Abdul Wahab, who had been dubbed Kafila Bashi, said that if the Mirza and his people would sit still and rest, he would make one more try with the guide and his assistant. Though rather apprehensive, the Mirza thought their only chance was to trust to them, so he and his servants remained behind. The men were away for a long time, and the Mirza thought that his party had been left to their fate; his anxiety lasted till late in the evening, when the Kafila Bashi, much to his relief, came back with the cheering intelligence that he had found traces of the path running along the north margin of the lake. He directed the party accordingly, and they went on two miles farther, and there halted for the night. The Mirza's men had by this time got rather mutinous, and began to murmur when told to light a fire and make the usual preparations: one of them became so impertinent, that the Mirza had to use his stick, a process which fortunately soon brought the others to reason. By the time it got dark a large fire was lighted, and the men were just beginning to get a little warmed, when they heard a wild yell in the direction of the lake, making sure that it must come from a band of robbers, who, though generally absent from the Pamir in the winter, do sometimes visit it even at that time. The party prepared for the worst, putting out their fire at once, and then shifting their camping-place into a neighbouring hollow, whilst the men shouldered their matchlocks in antici-

pation of an attack. After waiting for a short time two men were sent off to try and make out the cause of the alarm; they soon returned with the reassuring news that it was only some of the mounted men of the Badakshan Vakil, who were passing on towards Kunjūt. Though much relieved, it was too late to think of lighting another fire, and the men had to lie down in the snow, passing another wretched night. The party marched on again the next morning, as soon as they could see. For about three miles the track appeared to run along a frozen stream that issued from the east side of the lake, and to flow in an easterly direction; owing to the snow, the Mirza is not quite certain of this, though positive that there was at any rate no perceptible rise to the east of the lake. Daylight enabling the Mirza to look about him, he saw that he had at last reached the crest of the Pamir table-land, or at any rate of that portion called Pamir Khurd (little), which is the name of this part of Pamir. The guides said the name of the lake was Pamir-Kul, sometimes called Barkút Yassin, after the halting-place near the lake. The mountains close at hand were comparatively not very high, but farther to the north higher peaks were visible, as also to the south in the direction of Yassin and Kunjūt, but the path itself passed out between endless hillocks, and at times there was literally nothing to guide the eye as to which line to take.

The Mirza was now on the backbone or watershed of Asia, the streams to the west flowing into the Sea of Aral, and those to the east into the Yarkund River, and finally into that remarkable depression in the centre of Asia, called Gobi or Lob Nor. He was now at an elevation of about 13,300 feet above the sea. The scene, according to his account, was the most desolate that he ever saw, not a sign of man, beast, or bird, the whole country being covered with a mantle of snow. Though the Mirza and his men were all well supplied with warm clothing—their bodies being encased in woollen chogas, and sheepskin posteens or coats, their heads in fur caps, and their feet in two pairs of long woollen stockings, and their boots filled with wool—they nevertheless felt the cold very much. The Mirza, indeed, says that the intenseness of the cold was extreme whenever the wind blew, and that they then felt as if they were going to lose their extremities, the glare from the snow was very trying to the eyes, all suffering from snow blindness; their breath froze on their moustaches, and every one moreover had to walk in order to keep some warmth in the body. The ponies were in a wretched state; for the last few days the poor beasts had to go without water, and to quench their thirst by licking the snow.

After a most toilsome march of about twenty miles, the Kafila Bashi chose a halting-place near a frozen pool, hoping to get water out of it both for the men and the ponies, but when a hole was broken in the ice the ponies could not be induced to drink at it, and they had to take to the snow again. Soon after they halted, a furious storm of wind set in, and prevented the party from lighting their usual fire, and they could not even make their tea or cook their food, and consequently spent another very wretched night. The Mirza, with his head on his saddle, was just getting off to sleep when he was roused by the two guides from Punja, who came to ask leave to return, and to beg for a present. The Mirza remonstrated against their untimely demand, but they said they could be of no farther use, as they were now beyond the limits of Wākhān, and they could neither act as guides nor guard. After consulting the Kafila Bashi the Mirza paid the men up and let them go, as the Kafila Bashi said he now had no doubt as to the onward route.

The next morning the party followed the Kafila Bashi down the stream, which was now of some size, and clearly flowing eastward into Turkistan; they then ascended to the crest of a low spur, from which they had a good view over the great expanse of the Pamir Steppe, which appeared to be a sea of low rounded hills, one behind the other, but nowhere rising to any great height above the more level ground. Descending from this commanding point, called Aktāsh, or white stone, they encamped near the stream. This last march had been a great improvement on the former one, the snow had retired farther and farther from the track, and they saw signs of animal life in the shape of a herd of some kind of deer which crossed the path: these deer and other game are said to be very numerous in summer. The next day the party again followed down the stream, which was now hemmed in by cliffs on either side, they encamped in a low willow (Myricaria) jungle, and were able to get both wood and grass, and to make themselves and their ponies tolerably comfortable again. The next day, after marching three miles, they caught sight of the fertile valley of Sirikul, and pushing on were soon under the walls of the Tash-kurgān fort, having spent twelve miserable days between it and Punja.

The party pulled up near a deserted house; they had hardly settled themselves when a number of the Atalik Ghazi's Kirghiz soldiers came and joined them, with a view to find out who the Mirza was. When told that he was a merchant going to Kash-gar they evidently did not believe the story, and soon afterwards went away.

Late in the evening the Mirza was summoned by the Governor of Sirikul, and he accordingly went with the Kafila Bashi to the fort. He found the ramparts and bastions all in ruins, and after tumbling about in a rugged narrow passage, he was ushered into a very small dark room. Here he had to wait for some time, in no little apprehension as to what was to be the result of this visit. At last the Governor came in with lights, and the Mirza found himself in the presence of a hale man of about 60. After the usual compliments, and the discussion of tea with very hard wheat-flour cakes, the Governor proceeded to ask a few questions; and, having heard the Mirza's story, he said he would like to have all the Mirza's Khurjīns, or packages of merchandise, opened in his presence, so that he might see what the nature of his goods was. The Mirza was greatly alarmed at this request, lest his concealed instruments should be found out in the search. He had fortunately brought some presents with him to the fort, and he at once proceeded to offer them to the Governor, saying that they were specimens of his goods for his acceptance, and that he hoped he would not have the whole of his packages opened out, as he wished to dispose of their contents in Kashgar, where he was taking some things, for his friend Nubbi Buksh, a Jemadar in the Atalik's service. The presents, and the fact that Nubbi Buksh was in great favour with the Atalik for his military services, made the Governor decide to forego a search; after consideration, the Governor, who is a brother of the Atalik, said that he would allow the Mirza to go on to Kashgar under the escort of a Kirghiz chief called Abdul Rahman; but, in spite of all remonstrances, he would not allow the Mirza to go by himself, still having suspicions as to his real business. With this order as to escort, and the return present of a poor choga, the Governor dismissed the Mirza, who went back to his quarters in great anxiety; for, though his assertion as to the Jemadar Nubbi Buksh having been his friend was true, he by no means felt certain that the man would stand by him, though he was under some obligations to the Mirza.

Sirikul is a valley bounded on the north by the Chichik-Dawan mountains, on the east by the rugged chain called Kāndār, on the south and west by the last spurs of the Pamir mountains. The level ground runs from west to east for 30 or 40 miles, with a breadth of 12 to 18 miles. In the centre stands the old fort of Tashkurgān, a celebrated place, now in ruins, said to have been built by Afrasiab, the conqueror of Persia, as a safe place to deposit his treasure, which is still supposed to be buried within the limits of the fort. The fort formed an oblong, about one mile in length by a quarter of a mile in breadth. The towers and ramparts of rough stone, were all in a ruined state, and the

houses inside were mostly unroofed. Tashkurgān commands the roads from Badakshan and Chitrál to Kokhān, Yarkund, and Kashgar, and is still considered a place of importance, the more especially as it gives a control over one of the chief outlets used by the robber hordes of Kunjūt, when they issue from their narrow glens.

The valley is watered by the Sirikul River, the main branch of which is said to come from the direction of the Karakul Lake, or from the lake itself. It is joined by the stream on which Tashkurgān stands, about five miles to the north of the fort, and some 30 miles farther down by the Kunjūt River, at a place called Charsutoon, and a little farther on by the river which drains the northern face of the Karakoram mountains; the combined stream forming the great Yarkund River.

Sirikul, when the Mirza entered it, had been deserted by the greater part of its native population. The hereditary ruler of the country, Alif Beg, whom the Mirza met near Punja flying to Badakshan, had left as the Atalik Ghazi's troops began to take possession: the Atalik Ghazi had directed all who were attached to Alif Beg's rule to be removed to Kashgar and Yarkund, and this included nearly every inhabitant; their place has been supplied by Kirghiz, who seemed to like the change. The former inhabitants were of the Tāj race, a tall, strong-built set, with good features and fair complexions.

The valley is elevated, Tashkurgān being 11,000 feet above the sea. It produces wheat, Indian corn, &c., which are said to grow well. The whole valley is studded with small square forts, now held by the people of the Atalik Ghazi, and it is well irrigated from its own rivers.

On the 27th January, 1869, the Mirza resumed his march towards Kashgar. He had hardly roused himself when a mounted Kirghiz Sowar rode up and desired him to pack up quickly, in order to follow the Kirghiz chief Abdul Rahman, who had started two hours earlier. After giving the necessary orders, the Mirza paid up the Kafila Bashi, Abdul Wahab, who had carried him safely over the trying Pamir Steppe, and, finally adding a handsome present, in addition to the stipulated pay, the Mirza took leave of him. This Abdul Wahab was a Tāj of (Khulm) Badakshan, though his home for the time being was in Yarkund. The Mirza found him very reliable. Having finished his packing, the Mirza and his men followed the Kirghiz Sowar with anything but pleasant thoughts. Marching northwards for two miles they came to a deserted fort, inside which the houses were filled with every sort of grain, without a single man to look after it. The moment he got there the Kirghiz dismounted and proceeded to help himself, and recommended the Mirza's men to do the same,

as they would get no grain from the Kirghiz encampments during the onward march. The men, consequently, put a supply on their horses, and then went on again, following the Kirghiz. At five miles from Tashkurgān, the path crossed the main branch of the Sirikul River, flowing from the west. Though fifty paces wide the stream was frozen hard. Up stream the flat part of the valley appeared to be very narrow, while to the east it was broad and open, evidently very fertile and extending for a long way down the stream.

After crossing the main stream on the ice, the party followed its bank for about five miles more, the road running through swampy ground. Five miles farther on they passed a deserted Kirghiz village, the houses of which had all dome-shaped roofs. Near this place the Kirghiz chief Abdul Rahman had taken shelter in the tent of one of his horde. The tent was of the usual Kirghiz kind, called Kappa, made with a portable wooden frame covered with felts, a comfortable enough protection in the winter, but not well adapted for resisting rain, which it lets in at every angle.

On reaching the door of the tent, the Mirza was met by Abdul Rahman, and then was taken in and seated alongside of him, the people inside all rising as they went in; after exchanging a few civilities, food was brought in, and the Mirza was asked to share it. At first he was very reluctant to do so. It consisted of a sheep boiled whole, which was laid on a dirty cloth and then hacked into pieces with knives and served out on wooden plates, with a share of the broth to each. Hunger, however, soon conquered the Mirza's scruples, when he reflected that he should get no better food for the next ten days, and he had nothing for it but to eat what was before him.

Abdul Rahman was of pure Kirghiz breed, a square, strong-built man, with a round head and small blue eyes, without eyebrows, broad flat nostrils, and a little stunted hair for a moustache above a bare projecting chin. Fortunately, he was good-natured and anxious to be as kind to the Mirza as he could; he was the chief of a large horde, and said to be able to muster about 3000 armed horsemen. He and his horde owned great numbers of sheep, goats, yaks, horses, and double-humped camels, which are grazed in different places according to the season, going wherever the grass is best. The Kirghiz men and women both wear loose woollen chogas and trousers, with high, thin, leather boots. The men are ugly, the women somewhat better-looking. They are Mahommedans, but not rigid observers of that religion. Snow fell all night, but the tent was so comfortable that the Mirza did not wake till the call for morning prayer was given. He then found the Kirghiz men all sitting round the fire, sipping gruel

made with flour. They offered him a share, but he was not hungry enough to try it. The chief rode on ahead and left a man to guide the Mirza.

This man was rather a clog on the Mirza's observations. However, he managed to take what was required at odd times, when the man was ahead and not looking. Soon after starting they commenced the ascent of the formidable Chichik-Dawan Pass. After toiling for 11 miles up the snowy slope, by a path which was only fit for goats, they at last gained the summit. The Kirghiz had beaten down a path in the snow; yet two of the chief's horses fell down and were killed. The Mirza's ponies were fortunately very strong, and managed to scramble up, though much tried by their struggles. At the top they found a sort of table-land, lying to the north. The elevation was very great, and everyone had difficulty in breathing, which the Mirza and his men tried to remedy by munching sugar-candy and dried fruit, a cure which had but little effect beyond keeping the men in good humour. The scene was a most desolate one, if possible, even worse than that of the Pamir Steppe. Some high peaks were visible to the north-west. After walking about a mile the path began to descend again so rapidly that every one had to slide over the snow on their hands and knees, &c: the ponies got down with very great difficulty. After struggling for about 20 miles, they found themselves at the bottom of the slope; it was then getting dark, and they were much disappointed to find that the chief had gone 7 miles farther to a Kirghiz encampment. As there was no shelter at hand, there was nothing for it but to trudge on through the snow, which now began to stick to the feet, both of men and horses, making progress very difficult. After getting over about three miles they were startled by a man suddenly appearing. Fortunately, it was only a guide left by the chief. At the same time one of the Mirza's ponies kicked off its load and ran away, and the party had to divide its load, and carry most of the things on their own backs. It was not till near midnight when they reached the encampment. The chief welcomed the Mirza, and regretted that the march had been so trying, and then gave the party some tea and gruel,—the only food that could be got at that hour. Several of the men missed the road, and spent the night in the snow; fortunately, they all turned up in the morning, and the lost horse was found in the encampment.

The Mirza's men had got very mutinous, and he had the greatest difficulty in keeping them quiet. The encampment boasted of few tents, the place not being a very pleasant one,—the only fuel, moreover, being green twigs from small bushes, which produced a pungent smoke that made the Mirza's eyes

ache without warming him. After a miserably cold night the party marched on down the steep ravine, and at the end of five miles were delighted to find themselves in a low jungle, where the chief decided to call a halt so that the half-frozen men and horses might recover themselves after their fatigue and exposure—the chief at the same time having an eye to collect his tribute from the Kirghiz who were pitched round about. The party had not yet got away from the snow which covered the whole valley except on a few places near the ravine. Spite of the snow, the slopes were dotted with numerous Kirghiz tents, the chief attraction evidently being the firewood and the grass, which was got pretty easily, as the snow was not deep.

The Kirghiz inhabitants soon brought in their tribute, which they paid chiefly in sheep, camels, horses, butter, and coarse woollen cloth, adding a couple of slaves whom they had got in exchange for horses. These slaves turned out to be men of the Kashmir Maharaja's army, who had been captured in Yassin or Gilgit. They appealed to the Mirza, bemoaning their fate and saying they saw no chance of escape. The Mirza could do nothing, much as he pitied them; and, indeed, he could not help thinking that he might meet with a similar fate.

As soon as the chief had collected his tribute, the party marched on again, the road and country being very much as on the previous day. At the seventh mile, the stream which they had followed from the Chichik-Dawan diverged to the south to join the Yarkund River. The road turning to the north led up by a steep slope, then across tolerably level ground, and then descending again, passing a domed house in ruins, called Chahul-sutoon, supposed to be on the boundary between Sirikul and Yarkund. Farther on there was a still steeper ascent to a ridge covered with huge masses of rock, then another descent, which finally, after trudging for 23 miles, brought them in sight of a beautiful valley, called "Keen," or the Bride, from its general fertility, being a wonderful contrast to the desolate barren track the party had just traversed. The sight of this valley, with its easy slopes and stream of flowing water, quite put the Mirza and his men into good spirits; and they looked forward to their chances at Kashgar with less gloomy forebodings than they did whilst in a half-frozen state. The country looked altogether more civilised, and the Kirghiz families passed were generally busy spinning wool or weaving.

After leaving this valley the road turned to the north-east, over a stony pass enclosed by great cliffs, then down the ravine coming from the valley, crossing and recrossing the stream repeatedly, until the men and horses were fairly tired out, their

limbs being stiff with the cold and hard exercise they had been undergoing.

Whilst struggling through this ravine they passed a crowd of starving men, women, and children, who had been brought as captives from Sirikul without either provisions or warm clothing. They were grubbing about to get something edible in the shape of roots and herbs. They were the adherents of Alif Beg, the ex-ruler of Sirikul, who, they said, had poisoned his mother and wives lest they should fall into the hands of the Atalik Ghazi. The whole formed such a miserable sight that the Mirza gave them as much as he could spare from his small stock of dry fruit and sugar, thinking that, as he was now getting into a civilised region, he might be able to buy more for his party.

The Kirghiz chief pushed on with unceasing energy, changing his horses at any Kirghiz tent where he chose to alight. In this way he always got over his marches in good time; while the Mirza's party, on their tired ponies, were left far behind, with only one Kirghiz, as a guide, in attendance, which, though uncomfortable, allowed the Mirza to take his bearings and make notes—a proceeding which escaped notice except on one occasion, when the attendant Kirghiz rode up and asked the Mirza what he was looking at in his hand—a question which he managed to put off for a time, and thought had been forgotten; but, in the evening, the chief said he would like to know what his man had seen him looking at. The Mirza said it was nothing but a Kibla namā (a compass) that pointed to Mecca. The chief said he would like to see it; and the Mirza got out a real Kibla namā, a poor one, made in Russia, and handed it over to the chief. As soon as it was shown, a dozen of the wild Kirghiz crowded round to look at it, and were astonished to see that it always pointed in the right direction. Though professed Mahommedans, they had never seen one. The chief begged to have it, and the Mirza, as he had several with him, made him a present of it, congratulating himself that he had saved his prismatic compass at so small a cost. The chief was immensely delighted with it, and seemed to be just as ignorant about it as his men.

At 28 miles from Keen, or 98 miles from Sirikul, the party got clear of the rugged country, and, turning more to the east, came upon a fort called Karāwal, at the entrance of the Chichik-Dawan valley. This was a strong place, completely commanding the road, the ramparts being built on the edge of the cliffs in such a way as to appear inaccessible on all sides, except by the eastern and western gates. The fort appeared to be about a mile in circumference, including a number of deserted houses, only a few being occupied by about 200 of the Atalik's troops who seemed to be badly supplied, and had the

credit of plundering every one that was without a pass from the Atalik or his officials.

Soon after passing Karāwul, the hills receded to the west and south, opening out a distant view of the Kashgar and Yarkund territory. The Mirza, following the stream for a time, found himself in a fertile country, all but flat, covered with villages and forts, each embedded in large orchards of fruit trees. Finally, he crossed over the Yangi-Hissar River on the ice near the junction of the stream which their road had led them along; the river was about 100 paces in width, and in the summer could only be crossed by the bridge.

Late in the evening the party entered the town of Yangi-Hissar; the Mirza was taken to a house, and at once presented with a muslin turban and a pair of boots, when he objected to receive them; the chief said it was the custom of the country, being a mark of hospitality. The Mirza was glad to be inside a town again, but, knowing the restless nature of the chief, he felt sure there would be no halt, so he looked about him as much as he could the very day he arrived.

Yangi-Hissar has decayed mud walls, but there are many houses around just outside the walls. The houses are of one storey, with mud walls and flat roofs. It has a large bazaar, wide enough for carts; the shops are full of every kind of goods, and the town seemed to be in every way well supplied. On the west of the town there is a stronghold built by the Chinese, and called the New Fort, and it was said to be garrisoned by 1000 of the Atalik's soldiers (called Sirbazes) with some guns; the Atalik is supposed to keep his treasure there.

The main branch of the Yangi-Hissar River is said to rise to the west. A short route into the Alai Valley, and thence to Kokhān, goes up this river. Saltpetre and iron are found in the neighbouring mountains to the south-west. The people seemed to be well off, mostly engaged in agriculture, but doing a little in the trading way. Donkeys are generally used for carrying loads in preference to horses.

As the Mirza imagined, the Kirghiz chief could not bear the idea of halting in the town; the very next morning he pushed on again, evidently anxious to get rid of the charge of the Mirza, and then to get back to his own barren territory. Starting early on the 2nd February, 1869, the party crossed, after two miles, a frozen stream, 20 paces wide; at 11 miles they forded the River Kosun, 40 paces in width, and at 18 miles forded the large River Jolak, with a bed about 150 paces in width; and, two miles farther on, another, 60 paces wide, putting up for the night near it in the village called Opechan.

The next day (the 3rd February) after crossing two moderate-

sized streams, the Mirza, at 13 miles, crossed the great Tarwarak River, with a bed 150 paces in width, by means of a wooden bridge, entering the Yanga-Shahr, or new town of Kashgar, three miles beyond the bridge, being five miles short of the old town of Kashgar. Between Yangi-Hissar and Kashgar, the country was studded with villages, and every piece of available land was carefully cultivated. Shops were met with on the road every now and then, where travellers could buy refreshments in the shape of ready-made bread, boiled fowls, hot tea, sherbet and sour milk, which were always ready at the smallest shops. Everything was very cheap. Along the road, at intervals of about 4½ miles, the length of one tash (tash meaning stone), a board was fastened to a pole to indicate the distance from Kashgar to Yarkund. Orchards of fruit trees, and groves of mulberries, occupied a large portion of the land, which is generally level, the hills in the distance making but little show, except near Yangi-Hissar, where high mountains were visible to the west and south-west, while to the east nothing in the shape of a hill was visible.

The party reached Yanga-Shahr about midday; it appeared to consist of a large fort with a small town attached; there were not many trees immediately around it, hills were visible to the north, afterwards found to be part of the Artush range. On reaching Yanga-Shahr, the Mirza was at once taken to a small fort, in order to be shown to Nubbi Buksh, the Punjabi Jemadar, the Kashgar officials evidently thinking the Mirza's story as to his being a friend of the Jemadar was false. On seeing the Mirza, the Jemadar put on a look as if he had never seen him before in his life; the Mirza, however, explained so many incidents in Nubbi Buksh's career that he at last reluctantly confessed that the Mirza was an old acquaintance of his. The Mirza was pressing his point farther, but, as the Jemadar evidently did not like it, he changed the conversation, and did his best to convince the Jemadar that he wished to be friendly towards him, and had no intention of dwelling on any awkward incidents in his career. The Jemadar, however, was anything but pleased at being forced to acknowledge that they had been friends, and he insisted that it was nothing mercantile that had brought the Mirza to Kashgar at that time of the year, and he pretended to know what the Mirza's real object was; the Mirza had finally to stop the conversation, and to be satisfied with having got him to admit that he knew him.

The Jemadar soon afterwards rode off to report to the Atalik Ghazi, and before long returned to inquire whether the Mirza had any letter, and the usual presents for the Atalik with him; the Mirza said he had nothing of the kind, and that he was not

a vakil, &c.; but all in vain, the Jemadar said he must show his baggage, and, forthwith, had everything opened out. Having taken whatever he fancied, he then directed the Mirza to take up his abode in a neighbouring house in the same fort, which afforded but miserable quarters, already partly occupied by some Afghans who had been directed to watch the Mirza closely: there the Mirza passed the night in great anxiety, not knowing how the Jemadar would behave. Next morning the Mirza was taken over to the large fort, and introduced into the presence of the Atalik; the Mirza passed a large open building filled with some hundreds of people, who were eating; he was then ushered into a small room, where he found the ruler sitting on a carpet with two or three chiefs around him. The Atalik received the Mirza much more graciously than he expected; welcomed him to Kashgar; asked him a few indifferent questions, and then requested him to go and breakfast with his chiefs in the outer house, where they were all seated round a fire. The Mirza found these officials talking about two English officers who had lately entered the Kashgar territory; they asked the Mirza if he knew them, but he said he did not; they did not speak much, but allowed the Mirza to eat without interruption. The food consisted of baked bread, dried fruits, tea, sugar, milk, eggs, and excellent fresh melons—the latter having been preserved from the previous summer, simply by hanging them up from the roof of a room. The yolk of the eggs was eaten raw by itself, the white being mixed up with sugar-candy as a sweetmeat. There were a number of servants in attendance, who brought in the things, and offered them to every one. As soon as he had breakfasted, the Mirza was taken out to receive a dress of honour, and then taken before the Atalik again, to return thanks. After the audience, the Mirza was directed to live with the Jemadar, who, however, gave him no better quarters than he had at first assigned to him; and the Mirza found that there was nothing for it but to live with the low set of Afghans in the little house. Among these men, he found a Lohāni Afghan, called Mahomed Zamān, who told him he had been a guide to Mr. Johnson, when at Khotan; he said he had been with the "Sahib" some time, and had seen him observing stars, and also putting some instrument into warm water (a boiling thermometer, in fact). This proof of the man's acquaintance with such matters was anything but reassuring to the poor Mirza, who began to think he should never be able to handle his instruments; for, if seen by such a man, it would be impossible to put him off with any story as to Kibla namās, &c., such as answered for the ignorant Kirghiz. For a time, consequently, the Mirza was unable to do anything; but, at last,

a lucky chance took this too knowing Afghan away on duty to Yarkund, and the Mirza was soon afterwards able to take several meridian observations of the sun from inside one of the roofless houses in the fort, but he was unable to take any star observations, as he was too strictly watched during the night and forbidden to go outside. Only on one occasion was the Mirza able to take a night observation, when he went out on some excuse, and took the altitude of the pole star. Having stayed away rather longer than usual, he was cross-questioned, and the Jemadar directed that neither the Mirza nor his men should be allowed out of the sight of the sentry.

During his residence at Kashgar the Mirza was called before the Atalik on several occasions, in order to ask questions as to Hindustan, Badakshan, and Afghanistan, and also to find out who the Mirza was; but the Atalik did not speak much. At other times the Mirza saw him passing towards the Artush Ziyarat, called Khoja Affāk, where he generally went every Friday.

The Mirza describes this remarkable man as being a devout and strict Mahommedan. His name is Mahomed Yakub Beg, a native of the village of Pishkadh, between Tashkend and Kokhan. He is of the middle size, dark complexion, and is now about fifty years of age. His father was a petty farmer or small zemindar, and he himself started in life as a Peshkhidmut, a sort of private upper servant, or one of the body-guards of the Khan of Kokhan. Half a soldier, but bound to give personal attendance to the Khan at table, during dressing, while mounting his horse, &c., his emoluments at that time probably did not amount to more than Rs. 100 a month, paid by the assignment of the revenues of a small village, and by perquisites in the shape of clothes, horses, arms, and so on. From Peshkhidmut he rose to be Dadhkwah, or Governor of Ak-Musjid, a post which he held for about three years, nearly up to the time the Russians occupied that place. He has the credit of having allowed the Russians to settle near the Ak-Musjid fort without the knowledge of the Khan. When this became known to the then Khan, Yakub Beg is said to have run off to Bokhara, the Russians taking the place soon afterwards. Bribery is supposed to be at the bottom of this transaction; but however that may be, he remained away about three years in Bokhara, and was then taken into favour with the new Khan of Kokhan, Mola Alum Khol, who had lately succeeded to the Musnud, and was made one of his Durbar chiefs, and had the revenue of two or three villages assigned to him. He has received no education, can neither read nor write, though his people declare that at the age of forty-five he

learnt his letters sufficiently to read the Koran, which he is said to study every morning. He is very strict as to all rites of the Mahommedan religion, and forbids wine, opium, and smoking. Females are not allowed to go about unveiled, and every one is ordered to pray five times a day.

He is a Tajuk, and his native language is Persian, though he now seldom speaks anything but Turkish. At the time of his return to Kokhan he was in no great favour; but, on the representation of Walli Khan Tora (one of the chief men at Kokhan), the Khan sent him to assist in driving the Chinese out of the Kashgar territory. Whilst Yakub Beg (now styled Atalik) was engaged on this expedition, Walli Khan Tora tried to set up for himself in Kashgar; but owing to the Atalik's intrigues, was forced to fly to the mountains, where he is said to have been murdered by some unknown person: a fitting fate for the scoundrel, who, besides having the unfortunate M. A. Schlagintweit murdered, was noted throughout Turkistan for various other atrocities.

Yakub Beg, however, was successful in driving out the Chinese; but the Khan in the meantime had his own difficulties in Kokhan, and could exercise but little control over the Kashgar expedition. Yakub Beg (Atalik) was consequently very much his own master, aud when he finally heard of the Khan's death in action with the Russian troops, he decided to make himself independent of Kokhan. In consequence of this there is great enmity between him and the present ruler of Kokhan.

In spite of numerous difficulties, both with the Kokhanis who accompanied him on his first expedition, and also with the various people of Kashgar, the Kirghiz tribes, &c., Yakub Beg managed to establish his rule over the whole of the Kashgar territory.

When he was first sent against Kashgar with four or five hundred sowars (mounted men) he received the title of Kushbegi from the Khan of Kokhan, and this appellation was continued for some time after he separated from Kokhan; but he has latterly assumed the title of Atalik Ghazi, which he is supposed to derive from the Amir of Bokhara, with whom he is in friendly relations, vakils being exchanged between them.

The Mirza found the Atalik courteous; he appeared to have simple manners; but he has the credit among his people of being very suspicious, and is known to have his spies all over the country. He has a violent temper, and his ordinary expression is a threatening one, insomuch that the people who meet him do not care to look him in the face; nearly every one looks down as he passes. When anything angers him he

becomes exceedingly abusive, and is apt to take summary justice. The Mirza on one occasion saw him try to cut a petitioner down, the man only escaping by getting between some guns.

He and his son are always armed; he takes great precautions to prevent his officers holding general meetings; and he is more especially afraid of being murdered by some of the Kipchak-Kirghiz, a strong horde who opposed his rise to power. Very little talking goes on in his Durbar, the conversation being chiefly confined to answering his questions, the officials all looking down as if they were afraid to look about them; and generally there appeared to the Mirza to be very much less freedom than is usual in a Central Asian Durbar. He is noted for his generosity, dividing the horses, clothes, &c., which he receives as taxes, amongst his adherents. He gives a meal to some three or four thousand people every morning after prayers. The people respect him for being religious, and for what he has done in the way of making roads, bridges, schools, caravanserais, mosques, &c. He encourages the wealthier people to follow his example. He has collected a number of women in his harem, a large proportion being the wives and daughters of the Chinese whom he turned out of the country. He is said not to spend much of his time among these women.

According to the Mirza, the greatest defect of his government is in the revenue-system for the collection of taxes, &c., his territory being divided out amongst his relations or friends. These officials are allowed to take whatever they like; no accounts are kept, and as long as the Atalik is paid his dues he takes no notice. The consequence is a large amount of discontent, which is said to be shown by the greatly increased number who make the pilgrimage to Mecca, hoping that they may be less oppressed when they return as Hajis, that title generally being a safeguard against anything of the kind. Some, however, are said not to return at all, but to emigrate for good to Constantinople, &c. The taxes are paid in produce —officials having to make a yearly present in addition of large silver pieces called yamu (160 Rupees each), and of horses, chogas, &c., according to their rank.

On the whole, the Mirza thinks neither the people nor his officials like him; the latter secretly hate him for his harshness, and more especially for the irregular way in which they are paid. One of his rules against his own countrymen returning to Kokhan is particularly disliked. He is said to be a good soldier, exceedingly vigilant as to every movement either in his own territory or beyond his frontiers.

His army is said to consist of about 20,000 men, with 70 guns of various calibres, mostly small. In emergency it is supposed that he could muster 20,000 men more from among those Kirghiz hordes, with whom he is on good terms. The soldiers consist of Sirbazi, Tafarchi, and Sowars. The Sirbazis are armed with a matchlock and bayonet; uniform of quilted red Russian cloth, with long boots, supplied by the Government twice a year. They are drilled every morning by Afghans and Hindustanis, after the English fashion. The Tafarchis number about 2000; they are armed with very long matchlocks, taking three or four men to work them: they are mostly Chinese who became Mahommedans when the Chinese Government came to an end. The Sowars form a very irregular cavalry. There were about 7000 soldiers in and about Kashgar itself. The guns are all brass, mostly cast by Nogai Turks, who consider themselves subjects of Russia. Some have been cast by men from Turkey (Rum), and others by Hindustanis—those by the two latter being considered the best. The guns are said to work well up to about 1500 yards. Spite of all this show the Mirza does not think the troops are at all reliable, the people generally not having much taste for fighting, and no doubt the Atalik relies mostly on his own Kokhanis.

After the Mirza had been some time in the fort, he was informed by the Atalik that he wished him to see the Shagāwul Dadkhwāh of Yarkund, and he consequently visited the Shagāwul; then a high official was sent to make full inquiries as to who the Mirza was, &c. He had to meet a number of people, when the British and Russian Governments were discussed, as well as those of Afghanistan, Bokhara, &c. The Mirza says he pointed out the great power, resources, &c., of the British, and quoted various points to prove the same; when an Afghan who was present got excited, and denounced the Mirza before the assembly as a Kafir (infidel) that did not give proper respect to the Mahommedan princes. Fortunately the others took the poor Mirza's side, otherwise he would have had a great chance of being stoned; as once the cry of Kafir is raised, these bigoted Mahommedans are apt to act without farther inquiry. The Mirza from that date did his best to avoid all public discussion lest he should get into trouble.

The Mirza contrived to visit the old city of Kashgar thrice, on days when the Atalik was absent at Artush; unfortunately he had not much money to spare, and the man of the guard he bribed to take him there was not quite satisfied, and consequently informed the Jemadar of the Mirza's trips to the city. The Jemadar abused the Mirza roundly, and then reported him

to the Atalik, and expressed his opinion as to the probability of the Mirza having been sent as an artillerist and surveyor, as he was with the Kokhan Vakil in 1855. The Atalik, hearing that the Mirza was an artilleryman, wished to get him to make fine gunpowder and gun-caps for his army, and sent his son-in-law to try and induce the Mirza to teach his people. The Mirza had great difficulty in convincing him that he did not know how; the British, as he understood, always getting such things ready-made from Europe; and it was only by appealing as a guest of the Atalik that he was let off. The Jemadar, however, continued to threaten, and there was no appeasing him till he had got nearly every piece of property out of the Mirza.

Some time afterwards an official was sent with a compass and a pocket sextant, and a request to be shown how to use them. The Mirza had to plead ignorance, thinking it was a trap to find out whether he knew how to handle such things.

Owing to the restraint that was put upon him, the Mirza was unable to visit the Russian frontier himself; but he made friends with a Lohani merchant who had lately arrived from Tashkend by the Narain Valley. This man visited him very often, and gave him information as to the Russian posts, and the following route, viz.:—from Kashgar to Kūrbāshi, three days' march; thence to Chādur, three days'; and to Zertash, one day's —all through country infested by wandering Kirghiz, subject to Kashgar; from Zertash to Togia, a Russian fort, two days' march. Togia is said to be garrisoned by 400 sappers. After two marches more, the route crosses the Narain River, over which the Russians have built a bridge, protected by a fort with 500 men. From the Narain, at a distance of ten days' march, is Tāmāk, garrisoned by 100 men, and four mountain guns; thence, ten days' march farther on, to Allay, garrisoned by 2000 men and eight guns; the Russian garrisons increasing rapidly in proportion to the distance from Kashgar, the Lohani probably wishing to impress the Mirza with the wonders he had seen.

The Mirza's long detention and want of funds made his men mutinous again, and he was puzzled to know what to do. He first of all asked to be allowed to return by Badakshan; but the Jemadar opposed this, and said the Mirza might return with the two English gentlemen then in Kashgar, and ended by preventing him from doing either the one or the other. The Mirza had hoped that he might get some assistance from these gentlemen, and perhaps be able to assist them; but he had great difficulty in communicating with them, and the Jemadar so constantly misrepresented his actions, that he was forced to give up the idea. He was much dispirited when these gentlemen left.

Funds were his great difficulty; but he was at last relieved by meeting an Afghan prisoner who had been in the Kashmir Maharaja's service, and who was anxious to send money to his home. He offered to lend the Mirza money, on the condition that it was repaid to his family in Kashmir. Having taken a small loan from this man, the Mirza was eager to be off; and, finding that the Jemadar would in no way assist him, he at last in despair, said he would appeal to the Atalik in person. This alarmed the Jemadar so much that he at once went and asked leave for the Mirza to return to his country. The Atalik sent for the Mirza, and received him graciously, ordering him to be given a dress of honour, and gold dust worth 60 rupees, in order to buy a horse for himself. Permission to return, by the Yarkund route, to Ladak, was given, with a passport, describing him as a Kabuli traveller. This passport bears the Atalik's seal, and the Mirza holds it as a proof that he assumed no official character while in Kashgar territory, as at one time supposed. The Jemadar tried to retain the Mirza's men; but, on a hint to the Atalik, they were also supplied with passports.

The city of Kashgar is built in an angle between two branches of the Kozūl River, which join one another a few miles east of the city. The Kozūl, or Kozūl Yaman, comes from Mosh (a ruined place towards the Tarik mountains); its other branch, the northern one, is called the Toman. The united stream flows eastward, passing, at 40 miles, a small town called Faizabad, and, after receiving the Aksu stream, joins the Yarkund River. During the winter, both branches of the stream are frozen, and the Kashgar people can cross anywhere on the ice. In the summer, they cross by two bridges, lately built or rebuilt by the Atalik, so as to be fit for carts. These carts are drawn by two ponies or mules, and sometimes by three arranged unicorn fashion. The city is built on an easy slope; it is surrounded by a high wall, with towers at about every 50 yards. The wall is a thick one, made of sun-dried bricks, and has three gateways, with large wooden doors, protected by iron plates. The streets are very irregular; the houses are built with sun-dried bricks and flat roofs, and touch one another. Every house has its own fireplace and chimney, where the cooking is carried on inside: the houses are generally kept very neat. The poorest houses have felts and carpets for the floors; in the better houses, benches and beds are used. The bazaars are large, and wide enough to allow the carts to pass one another; the shops are well stocked with native and foreign goods. The city is well supplied with water, both by canals from the river and from springs. There are no buildings worthy of note, the mosques

and schools (madrussa) being only a little higher, and differing in no other way from ordinary houses except in having painted doors. There are eight colleges, eleven caravanserais, and a mosque in every street, where the people are forced to say their prayers five times a day. The streets of the chief bazaars are covered in with rough timber and mats, to keep off the sun in summer and the snow in winter.

The number of families in the city were reckoned at 16,000 in the time of the Chinese; but since their time the numbers have fallen off very much, many people having emigrated. The population is very mixed, the men comprising Turks, Tājuks, Tungānis, Badukshānis, Andijānis, Afghans, Kashmiris, Hindustanis, and a mixed race descended from foreigners and the women of the country. Tartar features and complexion predominate. The people generally are a profligate set, and, though good-humoured, are crafty and inhospitable. They are generally opium eaters, and are much given to dancing or singing, though the Atalik has forbidden everything of the kind. The only musical instrument in use is a sort of harp, like the Hindustani sitara. Both sexes wear the same shaped chogas, long loose quilted cloaks of coarse cotton cloth, over a tight-fitting jacket buttoned at the side; trousers of long cloth and various coloured silk; and a cap lined with inverted lambskin, with a turned-up border, completes the costume in winter. The border of the cap is sometimes made of "sugbao" or "sugābi" (otter) skin from Kashmir or Hindustan, but the skins from Russia are preferred. The crown of the men's caps is generally made of plain Russian broadcloth; the crown of the women's caps is generally of Benares brocade (kinkab), cloth embroidered with gold thread. In the summer these caps, lined with lambskin, are changed for others made of cotton cloth, fitting to the head, the caps well starched so as to preserve their shape. Those worn by the women are of a different shape, the women of the richer classes using Benares brocade, or a cloth embroidered with twisted silver thread got from Russia. Both sexes wear long high-heeled boots—those worn by the women being shod with iron, those of the men having no iron; the leather is generally native, made from goat-skins dyed red or pink, the richer people occasionally using Russia leather. The boots of the women look very gay, being ornamented with red or yellow silk, &c. The women do not wear many ornaments, beyond a few rings and three or four heavy silver or gold buttons of an almond shape worn in the body of their dresses. They are fond of flowers, and wear them in their caps; a few flowers are grown in the courtyards of each house. They do not darken their eyelids with antimony,

but instead paint a dark line so as to join the two eyebrows. They wear two long plaits of false hair, which hang down their backs. They are not seen much in public, as, whenever they go out, they are obliged to wear a large black or white "burkha" —a sort of sack, which covers them from head to foot, a piece of muslin, with eyeholes, being used as a cover for the face. This is a new custom in Kashgar, introduced by the order of the Atalik, which the women particularly dislike.

The men always carry knives, with which they eat meat and fruit: the knives hang from their waists, and a leather pouch, with steel, flint and tinder, always accompanies. Their food and times for eating differ considerably from the customs generally observed amongst Asiatics: they eat three times a day, and drink tea with each meal. The food consists of broth, made with flour, rice, &c., and a dish called "āsh," made with a sort of vermicelli from wheat flour, boiled with fresh vegetables, such as turnips, radishes, Indian corn, &c., seasoned with salt only: this vermicelli seems to have been introduced by the Chinese. Linseed oil is used instead of butter or ghee, which the Mirza found made the food disagreeable both to his palate and nostrils. The tea is boiled, and after being strained is mixed with milk and salt: they drink it hot, with wheat flour cakes. Spices generally are not in favour for meat, though they sometimes use pepper, &c., in their tea. The people are simple Mahommedans, and do not mix up any local superstition with their creed.

Level ground extends to about 40 miles south of Kashgar, 30 miles to the west, and 15 miles to the north, while to the east there are very extensive plains. To the west and north-west there are high mountains connected with the Pamir, which enclose the Alai Tarik and Narain valleys: they appear to be distant.

Kashgar is said to be very healthy in winter: the climate is dry, and so cold that fires are required in every house—rivers, tanks, and canals all freeze, and water is only got from the four springs, which seldom freeze hard. Snow falls very often, but seldom to a greater depth than a foot; it moreover soon melts. The river remains frozen till the end of March, and no snow is seen after that till December or January. In the spring the weather is very stormy, and the wind so strong sometimes as to blow down the Kirghiz tents that are pitched in the neighbourhood. The stormy winds are invariably accompanied by a hazy atmosphere, sometimes to such an extent that lights are required in the middle of the day. This is supposed to arise from an impalpable dust. The Mirza says that during the four months he was in Kashgar he could never see the sun clearly until some

hours after it had risen—it was always more or less obscured by a sort of dust or haze, and only three or four times really clear. The sun always had a sort of pale red colour for three or four hours after it rose.

The soil, though very sandy, is, owing to the large amount of irrigation, very fertile, producing wheat, barley, rice, cotton, Indian corn, peas, carrots, turnips, radishes, linseed, mustard, hemp (bhang), &c. The cultivation of bhang (hemp) is very extensive; an extract from its leaves is made, called "churrus," which is exported in large quantities to India, Western Turkistan, &c. There are numerous gardens and orchards to the north-east: these are irrigated by canals, and produce pomegranates, melons, mulberries, apricots, plums, apples, pears, walnuts, grapes, figs, &c. Fuel and timber are very scarce, everything of the kind having to be brought from a jungle, called Moral Bashi, which lies about three days' march to the east. A donkey load of wood costs about two rupees.

Tea, chintz, long cloth, inferior broadcloth, Benares brocade (kinkab), are plentiful in the bazaars. Goods of Russian manufacture supply the shops generally; they are said to be cheap, and not to be so long on the road as British goods from India.

Since the downfall of the Chinese Government, a considerable amount of jungle leaves and herbs have been used as a substitute for tea.

Coarse gunpowder is manufactured, but the materials are neither well ground nor well mixed. Shells for mortars are cast after a rough fashion: inferior matchlocks are made and some are imported from Russia; but neither are much esteemed. The few arms of British make that come from India are much prized.

At length, after a detention of more than four months, the Mirza was allowed to start for Yarkund on the 7th of June, 1869. His passport having been granted, he was directed to leave at once, and consequently had hardly time to arrange his affairs. Starting the same evening he marched four or five miles, and the next day reached Yangi-Hissar. The country, which on the Mirza's arrival was under snow, was now covered with fresh crops, and the trees were in leaf. The rivers which he had crossed on the ice were swollen with water, and had to be forded, except in the few cases where bridges were available. The water of the rivers was generally clear.

At Yangi-Hissar the Mirza again tried to take star observations, but owing to stormy weather and the dust haze he was not successful. The next day the Mirza marched on to Yarkund. At about a mile east of Yangi-Hissar the road crosses the main

branch of the Yangi-Hissar River by a wooden bridge; at 6 miles passed Lungar (a halting-place); at 8 miles Sughet Bolak, a large village; at 13 miles Karāwal, a military post, and also Kulpan village; at 16 miles Taplāk, a large village; at 22 miles Tumorra, a village; at 26 miles Kodāk, a well; at 27 miles Chumlak village; at 31 miles Kazil, a very large village, with a military guard for the purpose of examining passports: here supplies for men and animals are very plentiful. To the east of Kazil a sandy desert tract, called Samandchol, begins and extends for 18 miles; its surface is totally without water, and the Atalik has consequently built a well and a small mosque at the 13th mile. After crossing this desert, the road passes at 9 miles Koki Robat, a small village where there are two guards to examine passports; at 11 miles the village of Talunghiz; at 14 miles another Karawal or Lungar (halting-place).

From this Karawal the road for the first few miles runs through a low jungle of reeds; at 11 miles it passes the village of Urgund, and the country is called Karakum, from its black sandy soil; at 12 miles Boghet; at 13 miles crosses the Opiai Canal by a wooden bridge; and at 18 miles enters the city of Yarkund. The road from Kashgar to Yarkund, about 120 miles, is traversed by carts, and with very little expenditure could be made into a good road.

The Mirza reached Yarkund about noon on the 12th of June, 1869, and at his own request was taken to the house of the Kafila Bashi Wahab, who had piloted him across the Pamir Steppe. The Mirza thought that this private house would be more convenient than a public caravanserai for taking his observations, and he was consequently rather disappointed when an order came the next day for him to live near the house of Ahmad Ali, the Aksakál, or chief, of the Yarkund Kashmiris. As soon as news of the Mirza's arrival reached the Shagāwal, or Governor of Yarkund, he sent the Mirza some uncooked provisions. This Governor, whose name is Mahomed Yūnas (Jonas), was very friendly and saw the Mirza very often; both he and the Aksakál expressed themselves as being very well inclined to the British Government, though they did not think it advisable to say so in public. The Mirza was in want of money, but he could not make any satisfactory arrangement until he found a Kabuli, in the service of the Shagāwal, who wanted to remit money to his family in Kabul. With this loan and the sale of some of his things, the Mirza was able to complete the number of ponies required for himself and his party, and to provide for provisions as far as Ladak.

Whilst he was making these arrangements his men again

became troublesome, and matters were nearly brought to a climax by one of them who had fallen in love with a Yarkundi woman: this man vowed that if he was not given a large sum of money and allowed to remain behind to marry the woman, he would divulge everything he knew about the Mirza; he knew all about the observations, &c., and the Mirza was consequently greatly puzzled to know what to do with him, as the man was in such a demented state about the woman. At last, after consideration, he got the Kabuli to assist by explaining that if the man left the Mirza he would most assuredly be carried off to the Atalik as a Hindustani slave: this probable result frightened the man, and a small sum of money enabled him to get clear of the matter, much to the Mirza's relief.

Mahomed Yūnas Shagāwal Dādkhwāh, or Governor of Yarkund, is about fifty years of age. He is a Tājūk of good family from Tashkand, formerly in the Kokhan service; he was one of the supporters of the Atalik in the taking of Kashgar, and distinguished himself so much that he has gained the entire confidence of the Atalik. He has a better knowledge of Arabic and Persian than any of the Kashgar Moolahs, and he has received a good general education. He is a pleasant man to deal with in every way, and has liberal ideas as to foreign countries.

The city of Yarkund is built on level ground, about five miles to the north of a large river which flows from west to east. The city is enclosed by a ditch and a thick mud wall, with towers at intervals. It has a large covered bazaar like the Kashgar one, wide enough for the carts; but the streets generally are irregular, and too narrow to permit carts to pass. At the points where three or four streets intersect, there is always a small tank filled by the canals taken from the river. In summer these tanks are filled once a week, but, notwithstanding that, the water is dirty and full of worms, and generally has an offensive smell. The Mirza counted sixty-seven small canals running through the city—the people say there are 300, possibly referring to the minor branches; however the canals are very numerous. The houses of the rich are built in large open squares surrounded by high walls; these squares are well stocked with fruit trees. The houses generally are, as in Kashgar, built with sun-dried bricks. There are about 120 mosques and madrussas (schools), and twelve caravanserais, the latter are filled with goods of every country. The schools are always attached to the mosques; and endowment of land, houses, and shops are given by the Government to pay for the education of the poor. Nearly every street has its mosque and school. The

children are taught to read the Koran, and a few books in the Turkish language.

There are no remarkable buildings in the city. The Chinese citadel is still standing on the north side of the city, near one of the gates. It is now the residence of the governor, and has a garrison of about 2000 Sirbazes, and a few guns disposed inside the gates.

Amongst the men there are about 100 Afghans commanded by General Shukrallah, who drills them after the English fashion. These men had formerly been in the Bokhara service, which they left in order to try and get into the Russian service, but failing they joined the Atalik's forces. The present governor has built a new mosque and a school on an elevated piece of ground near the northern angle of the city. It is painted inside, and has gilt pillars and beams. Inside its court there is a fine tank supplied from the canal.

The shops are open all day, and every evening there is a regular market to which the country people bring their goods for sale. The population is just as mixed as that of Kashgar, including in addition some men from Little Thibet; the people generally are Suni Mahommedans; they are good-humoured and honest, unless they happen to have been corrupted by Kashmiris. The city is said to contain about 80,000 people, women preponderating. Their diet is simple, generally consisting of dry cakes and hot tea. They are more hospitable than the Kashgaris, and supply their guests with food. The features of the people, their language, and dress are very much the same as the Kashgaris. Goitre is very common in the city, and in the country round, but it is unknown in Kashgar. The country round about is covered with villages, the whole plain is irrigated by numerous canals, and every scrap of ground is taken up either by fields or gardens; the soil is very productive, and a large amount of grain is exported to Kashgar. The grains and fruits are the same as at Kashgar. Fuel is plentiful. Yarkund is hotter in the summer than Kashgar.

There was formerly a large traffic between China and the Kashgar territory, but it has been entirely stopped since the downfall of the Chinese rule: the chief trade is now with Russia by the Kokhan route, but this has latterly been much diminished, owing to the jealousy between the Kokhan and Kashgar governments. The current money consists of "pulls," a copper coin with a square hole in the centre; of "tungas," a larger copper coin worth twenty-five "pulls;" and twenty-six "tungas" being worth one rupee. A gold coin (tillah) worth six to seven rupees is also used, and a lump of silver called "yamu,"

worth Rs. 160. The Yarkund River, which flows about three or four miles south of the city, rises in the Karakoram and Mustagh mountains, and after leaving the higher mountains is joined by the Sirikul River; then taking a bend it flows rapidly past Yarkund, taking a north-easterly direction, and is joined successively by the Khotan and Kashgar Rivers somewhere near Moralbāshi, which gives its name to a very extensive forest or jungle which extends, as stated above, to within three or four miles of Kashgar. This jungle harbours a number of wild beasts, such as tigers, wolves, &c.; which makes the road to Aksu dangerous for solitary travellers. The Mirza stayed in Yarkund about a month, and after getting a passport he started on the 14th July for Ladak. The governor despatched a messenger after him, and requested that he would send him some drill-books and a supply of gun caps as soon as he got into Hindustan. The Mirza was then allowed to go on his way without farther interruption.

The Mirza travelled from Yarkund with a Kafila of about 300 men, a great number of them being pilgrims, mostly men and only a few women, all *en route* to Mecca. The Kafila took the old Karakoram route, and the Mirza said they none of them knew anything about the Changchenmo route, and never even mentioned it. The Mirza crossed the Karakoram Pass in safety, and reached Leh, the capital of Ladak, during August; thence he made his way to Kashmir and back through the Punjab to the Head Quarters of the Great Trigonometrical Survey, having been absent on his expedition nearly two years.

OBSERVATIONS FOR LATITUDES TAKEN IN CENTRAL

No. of Observations.	Astronomical Date.	Watch Time.	Stations.	Object on Meridian.	Upper or Lower Transit.
..	1868. Sept. 16..	H. M. 8 40 A.M.	Cabul	α Polaris.	..
..	,, 16..	9 5	Ditto	,,	..
..	,, 19..	8 10	Ditto	,,	..
..	,, 21..	8 2	Ditto	,,	..
..	,, 25..	Noon.	Ditto	Sun.	..
..	,, 26..	Noon.	Ditto	,,	..
..	,, 27..	Noon.	Ditto	,,	..
..	Oct. 20..	Noon.	Surkh Dur	Sun.	..
..	Nov. 1..	H. M. 7 0	Tashkurgan (Khulm)	α Polaris.	..
..	,, 1..	Noon.	Ditto ditto	Sun.	..
..	,, 2..	Noon.	Ditto ditto	,,	..
..	,, 2..	H. M. 6 35	Ditto ditto	α Polaris.	..
..	,, 30..	Noon.	Rustak	Sun.	..
..	Dec. 2..	H. M. 6 0	Ditto	α Polaris.	..
..	,, 2..	6 15	Ditto	,,	..
..	,, 11..	..	Faizabad	Sun.	..
..	,, 11..	7 9	Ditto	α Polaris.	..
..	,, 11..	6 42	Ditto	,,	..
..	,, 11..	7 30	Ditto	,,	..
..	,, 11..	8 0	Ditto	,,	..
..	,, 11..	7 0	Ditto	Jupiter.	..
..	,, 12..	..	Ditto	Sun.	..
..	1869. Jan. 27..	9 0	Sirikul	α Polaris.	..
..	,, 27..	9 10	Ditto	,,	..
..	,, 27..	9 30	Ditto	,,	..
..	Feb. 1..	Noon.	Yangi Shahr	α Polaris.	..
..	,, 2..	Noon.	Ditto ditto	,,	..
..	,, 4..	Noon.	Ditto ditto	,,	..
..	,, 5..	Noon.	Ditto ditto	,,	..
..	,, 6..	Noon.	Ditto ditto	,,	..
..	,, 7..	Noon.	Ditto ditto	,,	..
..	,, 8..	H. M. 9 0	Ditto ditto	α Polaris.	..
..	July 22..	11 0	Sanju	Moon.	..
..	,, 24..	..	Ditto	,,	..

ASIA WITH POCKET SEXTANT No. 34.

Double Altitude.	Single Altitude.	Index Error.	Deduced Latitudes.	Mean Latitudes.	REMARKS.
° 69 57	..	— 1′	° ′ 34 29		Throughout α Polaris was not on Meridian.
70 28	..	,,	34 36		
69 42	..	,,	34 30		
69 40	..	,,	34 29	° ′ 34 28	Griffith gives 34° 30′ 34″.
109 27	..	,,	34 19		
108 35	..	,,	34 22		
107 33	..	,,	34 29		
89 36	..	,,	34 45	34 45	Griffith gives 34° 49′ 51″ for Bamian, which is close to Surkh Dur, and nearly in same parallel of latitude.
75 5	..	,,	36 39		
77 47	..	,,	36 35		
77 13	..	,,	36 33	36 37	By Wood's Map 36° 40′.
74 53	..	,,	36 41		
62 51	..	,,	36 54		
76 41	..	,,	37 16	37 5	α Polaris not on meridian.
76 57					
59 52	..	,,	37 4	..	Atmosphere hazy.
77 2	..	,,	..	..	α Polaris not on meridian.
77 6	..	,,	..		
77 3	..	,,	37 7	37 2	By Wood's Map 37° 5′.
77 5	..	,,	..		
107 15	..	,,	36 56		
59 48	..	,,	37 1		
76 35	..	,,	..	..	Or Tashkurgan town with old fortress.
76 33	..	,,	37 44	..	α Polaris not on meridian.
76 37	..	,,	..	..	
66 51	..	..	39 34		Or Kashgar, about ¼ mile N.W. of new fort. The new fort being about 5 miles south-east of the old city of Kashgar.
67 45	..	..	39 24		
68 36	..	..	39 34		
69 36	..	..	39 22	39 26	
70 5	..	..	39 26		
70 43	..	..	39 26		
79 20	..	..	39 19	..	α Polaris not on meridian.
62 22	..	..	37 49	37 11	
79 25	..	..	37 15		

OBSERVATIONS OF THE BOILING-POINT TAKEN IN KASHGAR, SIRIKUL, AND OTHER PLACES IN CENTRAL ASIA.

Number of Observation.	Month and Date.	Watch Time.	Station.	Thermometer.				Deduced Height above Sea.	Remarks.
				No.	Boiling-point.	No.	In Air.		
	1868.								
16	Nov. 30..	10 A.M.	Rustak..	XC.	205·2	..	58·1	5,080	
17	Dec. 12..	11 A.M.	Faizabad	,,	205·2	..	59·1	5,081	
	1869.								
18	Jan. 3..	4 P.M.	Ish Kashim	,,	195·2	..	45·1	10,805	
19	,, 5..	10 A.M.	Kundood	,,	196·5	..	45·9	10,057	
20	,, 10..	9 A.M.	Nist	,,	193·5	..	45·0	11,806	End of Wakhan Valley.
21	,, 11..	4 P.M.	Lunghar Pamir	,,	192·5	..	..	12,128	Mercury sank so low that thermometer could not be read.
22	,, 11..	5 P.M.	Lake Pamir Kul	,,	190·5	..	..	13,259	Ditto.
23	,, 26..	4 P.M.	Aktash	,,	191·1	..	..	12,914	Eastern extremity of Pamir Steppe, ditto.
24	,, 27..	4 P.M.	Tashkurgan	,,	194·5	..	..	10,986	Or Sirikul. Ditto.
25	,, 30..	4 P.M.	Charling Valley	,,	193·5	..	..	11,556	Ditto.
27	Feb. 3..	11 A.M.	Yangi Shahr or new Kashgar	,,	205·1	..	..	5,087	Ditto. Inside a house. Yangi Shahr, or new Kashgar, is about 5 miles south of the old town of Kashgar.
26	June 1..	4 P.M.	Yangi-Hissar	,,	205·1	..	84·0	5,166	
28	June 22..	11 A.M.	Yarkund	,,	207·1	..	80·0	4,000	Inside a house.
	1867.								
	Oct. 10..	4 P.M.	Mussoorie, G. T. Survey Office ..	,,	201·9	..	62·0	6,876	Trigonometrical height.

NOTE.—The height of Yarkund deduced from former explorations, viz., 4000 feet, has been used in computing the above heights, but the observations taken at Mussoorie, before the instrument left, indicate a somewhat less altitude, viz., 3891 feet for Yarkund, but the heights have not been altered for this as the thermometer was unfortunately broken before the Mirza returned, and there were no means of testing its zero. Judging from the results of other explorers, Kashgar and Yangi-Hissar are too high as given in the above list, and as they depend upon single observations with a very small thermometer it is probable that they may be so.

ROUTE-SURVEY FROM CAUBUL TO KASHGAR, *viâ* BADAKSHAN, &c., IN CENTRAL ASIA.

Station Number.		Bearings of Forward Station.		Distances in Miles to Forward Station.	Remarks.
		°	′		
	1 ..	253	0	14·5	Caubul City.
	2 ..	275	0	11·0	
	3 ..	246	0	14·0	
	4 ..	270	0	5·0	
	5 ..	305	0	18·0	
	6 ..	..		18·0	
	7 ..	313	0	3·8	
	8 ..	280	0	6·0	
	9 ..	330	0	3·0	
	10 ..	350	0	6·0	
	11 ..	260	0	3·5	
	12 ..	340	0	3·5	
	13 ..	270	0	6·5	Bamian.
Bamian	.. ..	275	0	3·5	
	14 ..	310	0	8·0	
	15 ..	20	0	19·0	
	16 ..	270	0	5·0	
	17 ..	355	0	10·5	
	18 ..	75	0	8·5	
	19 ..	350	0	10·5	
	20 ..	34	30	8·5	
	21 ..	310	0	5·5	
	22 ..	24	0	5·5	
	23 ..	330	0	6·5	
	24 ..	40	0	9·0	
	25 ..	103	0	5·0	
	26 ..	20	0	13·0	
	27 ..	345	0	2·5	
	28 ..	310	0	4·5	
	29 ..	320	0	8·0	
	30 ..	350	0	18·0	
	31 ..	345	0	8·0	
	32 ..	315	0	16·0	
	33 ..	357	0	2·5	Tashkurgan.
Station ..	1 ..	75	0	19·0	
	2 ..	85	0	8·8	
	3 ..	80	0	28·0	

ROUTE-SURVEY FROM CAUBUL TO KASHGAR, &c.—*continued.*

Station Number.	Bearings of Forward Station.	Distances in Miles to Forward Station.	REMARKS.
4 ..	55° 0	13·0	Kunduz.
Kunduz	130 8	5·0	
6 ..	60 0	7·5	
7 ..	55 0	10·0	
8 ..	90 0	8·0	Talakhan.
Talakhan	25 0	7·5	
10 ..	50 0	7·5	
11 ..	12 0	5·5	
12 ..	70 0	2·5	
13 ..	45 0	4·0	Rustak.
Rustak	98 0	5·0	
15 ..	140 0	3·0	
16 ..	68 0	5·0	
17 ..	90 0	6·5	
18 ..	40 0	3·5	
19 ..	70 0	11·0	
20 ..	130 0	3·5	
21 ..	60 0	9·0	Faizabad.
Faizabad	145 0	5·0	
2 ..	65 0	6·0	
3 ..	130 0	8·5	
4 ..	103 0	10·0	
5 ..	175 0	9·5	
6 ..	135 0	10·0	
7 ..	110 0	10·5	Zebak.
Zebak	110 0	0·5	
8 ..	35 0	6·0	
9 ..	60 0	7·0	
10 ..	50 0	4·0	Ishkashim.
Ishkashim	90 0	10·0	
12 ..	60 0	6·0	
13 ..	40 0	11·0	
14 ..	55 0	14·0	
15 ..	48 0	8·0	Punja Fort.
Punja Fort'	75 0	18·0	
17 ..	105 0	14·0	
18 ..	140 0	1·5	
19 ..	85 0	8·0	

ROUTE-SURVEY FROM CAUBUL TO KASHGAR, &c.—*continued.*

Station Number.	Bearings of Forward Station.	Distances in Miles to Forward Station.	REMARKS.
	° ′		
20 ..	70 0	10·0	
21 ..	85 0	10·0	
22 ..	140 0	2·0	
23 ..	100 0	6·0	
24 ..	70 0	23·0	
25 ..	50 0	14·0	
26 ..	60 0	23·0	
27 ..	40 0	11·0	
28 ..	30 0	2·0	
29 ..	..	5·0	
30 ..	70 0	2·0	
31 ..	90 0	6·0	
32 ..	35 0	2·0	
33 ..	60 0	4·0	
34 ..	20 0	10·0	
35 ..	70 0	3·0	Tashkurgan or Sirikul.
Tashkurgan ..	350 0	10·0	
37 ..	..	5·0	
38 ..	110 0	20·0	
39 ..	100 0	7·0	
40 ..	60 0	8·0	
41 ..	10 0	4·0	
42 ..	90 0	3·5	
43 ..	28 0	13·0	
44 ..	40 0	10·0	
45 ..	5 0	9·0	
46 ..	80 0	6·0	
47 ..	112 0	7·0	
48 ..	..	16·0	
49 ..	340 0	36·0	Yanga Shahr or new town of Kashgar.
50 ..	312 0	5·0	Kashgar (old city).
Kashgar	160 0	36·0	Yangi-Hissar.
Yangi-Hissar ..	145 0	31·5	
2 ..	110 0	18·5	
3 ..	130 0	14·0	
4 ..	98 0	18·0	Yarkund.
Yarkund.	..	..	

STAGES on the ROUTE from CAUBUL to BADAKSHAN up the RIVER OXUS, and across the PAMIR STEPPE by SIRIKUL to KASHGAR in EASTERN TURKISTAN.

Number of Marches.	Names of the Daily Halting places for ordinary Marches.	Estimated Number of Miles from Stage to Stage.	REMARKS.
1	Caubul Kot Hashtrū	16½	A small village from which supplies in small quantities are procurable. Bad encamping-ground.
2	Sakaṇī	13	A good caravanserai and custom-house. Encampment on bank of Surchasma Stream.
3	Gurdandeewar ..	23	A small mud fort on the right bank of the River Helmund. Encampment on bank of the river.
4	Kulloo at Kila Murtaza Khan.	20	On the road to this place several mud forts are seen.
5	Topchi	12½	A small mud fort. Provisions are scarce at this place. Plenty of pasture for cattle.
6	Bamian	11½	A small village famous for its gigantic idols, also for the excavations made by the people.
7	Surkh Dur	3½	A small village where grass is abundant.
8	Akrabad	12	The site of a dilapidated mud fort. No provisions.
9	Saigān	17	Near small fort, on a hill. Encamping-ground good.
10	Kamurd	11	A small mud fort on the left bank of the river. Grass abundant.
11	Muddar	12½	A small military post stage at the foot of the Korakhol Mountain. Supplies not procurable here, though grass for cattle abundant.
12	Doab Shah Pusund Khan	12½	A small mud fort situated at the junction of two streams. Camp supplies are scarce here, but grass abundant for cattle.
13	Rui	25	A small military post. Pasture for cattle abundant.
14	Kurrum	17	A small rambling village with good pasture.
15	Foot of Kohil Mountain	17	The country from this point looks wild, and all the villages are at a distance.
16	Asia Badee	19	A ruined windmill.

ROUTE from CAUBUL to BADAKSHAN, &c.—*continued.*

Number of Marches.	Names of the Daily Halting places for ordinary Marches.	Estimated Number of Miles from Stage to Stage.	REMARKS.
17	Guznīguk	5	A small village surrounded by fine pasture lands on the brow of a hill.
18	Tashkurgān	20	A large town.
19	Ungarik	9	A small village.
20	Abdān, 2nd	20	A well in the desert.
21	Karabagh	23	A small village.
22	Kundooz	7	A town proverbially known to be unhealthy.
23	Khanabad	12½	A small fort on the right bank of stream.
24	Talakhan	18½	A town.
25	Ass	2 } 15	A small village.
	Girdab	13 }	A small village stands on the opposite bank of the River Kokcha.
26	Rustak	11	A town in Badakshan.
27	Alkashim	8½	A small village is seen from this place situated about 3 miles distance from the road and at the foot of the hill.
28	Atamjallo	15	A village consisting of about 40 houses. Provisions are, however, not procurable, and the encamping-ground is bad.
29	Caohar Dara	11	A village of 100 houses on the slope of a hill.
30	Faizabad	12	Chief town of Badakshan.
31	Chupchi	19	A small village where supplies are not procurable.
32	Chokaran	10½	A small village where provisions and supplies are not procurable.
33	Yomullo	6½	Ditto.
34	Teergahran	6	Ditto.
35	Zebak	18	A small village consisting of about 20 houses.
36	Zurdkhan	5	A small village where supplies are not procurable.
37	Ishkashim	14	Several small forts are visible from this, situated along the opposite bank of the Punja or Oxus River.
38	Gazda	9	A small village.
39	Shekurb	11	Ditto.

ROUTE from CAUBUL to BADAKSHAN, &c.—*continued.*

Number of Marches.	Names of the Daily Halting places for ordinary Marches.	Estimated Number of Miles from Stage to Stage.	REMARKS.
40	Oregund	12	A small village.
41	Kundood	14	Ditto.
42	Punja Fort	16	A small fort made of stones cemented with earth, and considered of great importance. The town of Punja at this place is the chief one of the Wākhā or Wākhān Valley.
43	Raz Khan	17	A small village.
44	Patur	15½	Ditto.
45	Degoloman	11	Ditto.
46	Patur, 2nd	12	Ditto.
47	Camp	12	In bed of main branch of Oxus River.
48	Near Lunghar ..	13	A halting-place. The commencement of the Pamir Steppe.
49	Ruin of a Kirghiz building.	13	Country from this point onwards is very wild.
50	Lake called Pamir-kul or Barkut Yassin.	9	This lake from its western end gives rise to the main branch of the upper River Oxus, and is on the crest of the Pamir Steppe.
51	Camp in Pamir Steppe.	23	In the midst of hillocks.
52	Ak tash	20	On the bank of Sirikul Stream.
53	Camp	18	In low jungle and grass.
54	Tashkurgan or Siri-kul.	6½	A fort in the Sirikul Valley.
55	Shukrab	18	The country extending over these distances is a barren waste, and the inhabitants live entirely on the milk and flesh of their herds and flocks.
56	Kirghiz	27	
57	Camp in jungle ..	5	
58	Akul	8	
59	Keen Valley	20	
60	Kipchak	12	
61	Karāwal	16	A well-built fort.
62	Yangi Hissar	20	A small town.
63	Opechan	19½	A village.
64	Kashgar new town	16½	Or Yanga Shahr. The seat of government.
	Kashgar old city ..	5	

STAGES on the ROUTE between KASHGAR and YARKUND by YANGI HISSAR.

Number of Marches.	Names of the Daily Halting places for ordinary Marches.	Estimated Number of Miles from Stage to Stage.	REMARKS.
	Kashgar to—		
1	Opechan	16½	A village.
2	Yangi Hissar ..	19½	A small town.
3	Kulpan	13½	A village.
4	Kazil	18	Ditto.
5	Koki Robat	18½	Ditto.
6	Karawal or Lungar	14	A village and military post.
7	Yarkund	18	City.

VII.—*The Landfall of Columbus.* By R. H. MAJOR, Esq., Secretary R.G.S.

Read May 8th, 1871.

IN the midst of the pleasure that we are so frequently deriving from the narratives of gallant explorers of the present day in distant and unfrequented lands, it is not amiss that we should occasionally look back with a loving interest to the deeds of our predecessors in the same glorious and useful career, to whom we owe so much. To the antiquary or lover of history, the spot in the New World which was first lighted on by that Prince of Navigators, Christopher Columbus, in his hazardous search for the Indies across the Sea of Darkness, cannot fail to be a matter of curiosity. It happens, however, that the identification of that locality is a matter not of historical curiosity alone, but of practical utility; inasmuch as for nearly two centuries the name which Columbus gave to that spot has been applied to an island to which it never belonged, and a misapplication of nomenclature in geography is a point to which geographers cannot or ought not to be indifferent.

It is well known to all that Columbus gave the name of San Salvador to the island which he first discovered, and that its Indian name was Guanahani. In the year 1847, when I had the honour to edit for the Hakluyt Society the 'Select Letters of Christopher Columbus, illustrating his Four Voyages to the