PROCEEDINGS

OF THE

ROYAL GEOGRAPHICAL SOCIETY AND MONTHLY RECORD OF GEOGRAPHY.

A Journey round Chinese Turkistan and along the Northern Frontier of Tibet. By A. D. CAREY.

(Read at the Evening Meeting, November 28th, 1887.)

Map, p. 790.

In the latter part of May 1885 I left Simla, intending to spend two years' leave of absence in carrying out a long-cherished scheme of travelling on the frontiers of Northern Tibet. Through the kindness of the Government of India I was furnished with a passport from the Chinese Government authorising me to visit Turkistan, China Proper, and Tibet, and I had also provided myself with a stock of presents suitable for the different classes of people I should have to deal with, without which the utility of the passport would have been much diminished.

I had selected the treaty road to Ladakh through the Kulu and Lahoul valleys in preference to the Kashmir route, and started by the Great Hindustan and Tibet road—the somewhat high-sounding title given to an excellent bridle-path from Simla to the Sutlei. After passing Narkanda, a favourite resort of holiday-makers from Simla during the spring and autumn, crossing the Sutlej below Kotgarh, and traversing the entire length of the Kulu valley, I was delayed for some days at the Rotang Pass, separating Kulu from Lahoul. was carried over by coolies, but in consequence of the depth and softness of the snow the unladen mules could not cross until the 20th of June. At Kailang, the residence of the venerable Tibetan scholar and missionary. Dr. Heyde, I was joined by Mr. Ney Elias, British Commissioner in Ladakh, also bound for Turkistan, and, travelling in his company, crossed the Baralacha Pass at the head of the Lahoul valley with some difficulty on the 7th of July. At Leh I found Mr. Dalgleish, whose services I had secured as Turki interpreter and assistant for the trip. awaiting my arrival, he having come down a few days previously from Yarkand, where for some years past he has made his home.

My plan was to reach Turkistan by the route through the uninhabited tract of Tibet lying between Rudokh and Polu, which is now



rarely, if ever, used. Acting on the advice of Mr. Elias, who freely gave me the benefit of his great experience, and with the assistance of Rai Bahadur Radha Kishen, Wazir of Ladakh, I struck a bargain for baggage-ponies with the Tartars of the frontier villages on the Pangong Lake, and left Tanksé on the 12th of August with a caravan of thirtyone men and forty-nine ponies. To save the ponies as long as possible, yaks were engaged to carry the baggage as far as the frontier between Ladakh and Rudokh, at the head of the Changchenmo valley. An easy road now led to the Mangtza Lake, a fine sheet of salt water about nine miles in length, and to another small lake close by, from which salt is collected by people from Rudokh and Ladakh. The severity of the struggle for existence in these barren regions is well illustrated by the fact that natives of Baltistan bring dried apricots from Scardo to Tanksé, and return with salt from the Mangtza Lake along the bed of the Shyok river, over as rough and bad a pathway as can be found anywhere, the burden on each man's back being more than 120 lb.—a striking example of very hard work for the smallest possible recompense.

At the Mangtza Lake we struck the road between Rudokh and Polu, which was surveyed by Kishen Singh, one of the Pandits attached to Sir D. Forsyth's mission to Turkistan; and as the guide we had with us turned out to be entirely ignorant of the route, we were obliged to find the way for ourselves with the aid of the Pandit's map and notes. Thanks to the admirable care and accuracy with which his work had been done, we found no very serious difficulty in doing this, and reached Polu without the loss of a single baggage-animal on the 12th of September, exactly a month after leaving Tanksé.

At various times, and notably in the Geographical Report by Colonel Trotter printed at chapter vii. of the Report of Sir D. Forsyth's mission, hopes have been expressed that this road, if rendered available for traffic, would form a valuable trade route, as it runs direct to India without passing through any part of the territory of the Maharaja of Judging from the portion of it which I saw, I do not think Kashmir. such an expectation can be realised. From the frontier of Ladakh to the Sulphur Horse Pass at the head of the Polu ravine the road is certainly an easy one, inasmuch as it is fairly level and free from obstructions or But the great height of over 16,000 feet at which it very bad places. runs, and the resulting oppression of breathing during so many days continuously, make it extremely trying to both men and animals. The grass at such an elevation is always coarse and scanty, and probably August, September, and October are the only months during which it would be safe for a trader's caravan to attempt the journey. Snow fell almost daily during my march, though it quickly melted; and the Tartars subsequently informed me that on their way back in September and October snow fell on eighteen successive days, and they lost several of their ponies in consequence. Another drawback to the route is that it

enters Turkistan at a point too distant from the markets of Yarkand and Kashgar. The ravine from the Sulphur Horse Pass to Polu is so difficult as to be impracticable for laden baggage-animals. I succeeded in getting through it only through the splendid qualities of the Tartar ponymen, who carried the loads on their shoulders over the worst parts of the road. With any other class of men it would have been almost hopeless. water in the bed of the torrent, which has to be crossed many times, was fortunately low, or the ravine would have been impassable. I am, however, not sure that another and easier road to the foot of the pass does not exist, though from the cautious reserve of the Polu villagers I was unable to obtain any definite information in reply to my inquiries on the subject. But in any case I am convinced that the route is a useless one for trade purposes. The chief point in its favour is that it avoids Kashmir territory, a consideration now of no importance since, owing to improvement in our political relations with Kashmir, traffic passing through that State by the Srinagar and Murree road is as free from interruption as on the treaty road via Lahoul.

The existence of the Polu road from India was entirely unknown to the Chinese authorities at Kiria, and the news of our arrival appears to have caused some consternation. We were informed that the garrison was called out at midnight, and 200 men were sent half-way to Polu, while the commanding officer, with a smaller body of men and several Mahommedan officials, came to Polu on the evening of the 10th, having marched more than 50 miles during the day. The next morning they paid me a visit, saw the passport, and were very cordial and profuse in offers of assistance. The Chinamen spent a day in exploring the road by which we had come down, and before returning to Kiria instructed the villagers that all our wants were to be supplied.

Leaving Polu, we followed the Kiria river, which has cut itself a channel 200 or 300 feet deep in the soft earth. The banks are so precipitous that we had some difficulty in finding a place from which the water was accessible for our camp.

Kiria, the chief place of the district of the same name, is a small unwalled town, with a fairly good bazaar. The principal industry of the district is agriculture. As elsewhere in Turkistan, farming operations are entirely dependent on irrigation from the streams which are fed by the melting of the snow on the mountains, and the Mirab, or officer, whose duty it is to regulate the supply of water to the cultivators, is a functionary of considerable importance. Within the area of irrigation the country is dotted over with poplar, mulberry, and other trees, and is extremely fertile. Good crops of wheat, Indian-corn, cotton, &c., &c., are obtained, while fruit—especially grapes, melons, and peaches—and various kinds of vegetables are plentiful and good. Outside the zone of irrigation all is waste and barren.

The respect and civility shown to us, as Englishmen, by all classes

of the people were very marked. I was often rather embarrassed, when strolling about the country, by the attentions in the shape of presents of fruit and sweetmeats, invitations to stop and partake of tea, and so forth, offered me by the inmates of the farmhouses near which I passed, while the flow of visitors to the garden in which we were encamped was constant. Crowds of sick persons begging for medicine also besieged us.

Kiria is connected with Khoten by a good bridged road with well-grown roadside trees, affording a grateful shade wherever the soil admits of it. Substantial marks have also been erected at intervals of a "fotai," or about 2½ miles. The road passes through a good deal of very barren country.

Khoten is a busy manufacturing town. The people are good workmen, and more enterprising than Turks elsewhere, as they make long journeys into the hills in search of gold. The principal manufactures are carpets, silk, felt, and brass and copper vessels. The area of arable land is too small to supply the wants of the population, and corn and rice are consequently imported—the former from Kargalik, and the latter from Aksu and Kuchar. The Mahommedan city, about 21 miles in circumference, is very poorly built. The new or Chinese town, about half a mile distant from the old town, contains the public offices, the barracks, and a wide street of shops, neatly and regularly built. The population is stated to be about 30,000 souls. Ruins of the wall of an ancient and much larger city which included the sites of the present towns are distinctly traceable at many points. I left Khoten on the 16th of October by the Aksu road, which follows the left bank of the Yurangkash river. Two miles from the city cultivation ceased, and, with the exception of a small piece of land at Yangi Arik, 10 miles from Khoten, and another somewhat larger at Tawakal on the opposite or right bank of the river, about 40 miles from the city, no cultivation was met with until Shah Yar was reached. There is plenty of land, to all appearance suitable for the plough, but the water-supply is considered insufficient to irrigate a larger area than is already tilled. The road now follows the river up to its junction with the Karakash at a campingground called Koshlash, about 68 miles from the city. The Karakash must next be forded, after which the route is along the left bank of the united stream, now styled the Khoten river. On either bank is a thick belt of jungle, furnishing an ample supply of wood and grass to travellers and shepherds, and giving shelter to large numbers of pheasants and hares. Beyond the strip of jungle, which is of varying depth, is a desert. About 90 miles from Khoten we passed two adjacent and parallel ranges of hills, which rise abruptly from the plain to a height of 500 feet or more, and are known by the name of Mazar Tagh from the tomb of a saint on the summit. These hills run in a north-westerly direction until they cross the high road between Yarkand and Aksu, at a point a few miles north of Maralbashi, where we afterwards recognised them.

The peculiar feature in these hills is that, though touching one another and running side by side, the range to the north is white in colour, while the southern one is a strongly-marked red.

From this point the river had dried up, and water was very scarce. It was only to be found in pools few and far between which had formed in the bed of the river beneath the banks. This inconvenience was, however, compensated by the advantage of no longer having to follow all the sinuosities of the bank, and finding an excellent and direct road down the river-bed. Tracks, both of the tiger and of the Maral stag, were now very numerous; but the jungle is so dense and the wood of the bushes forming it so brittle, that anything like stalking was impossible. Beating might be more successful, though it would be very uncertain, owing to the thickness and extent of the jungle, and is, moreover, impracticable, because beaters are not procurable, there being no inhabitants. The only chance seemed to be by night watching, but, though I sat up through several nights by pools of water in likely-looking places, I was never fortunate enough to get a shot.

The party of Russian explorers under General Prejevalsky left Khoten for Aksu, a few days before my arrival at the former place. I had hoped to overtake them and make the acquaintance of that distinguished traveller, but on reaching the Tarim I was informed that he had gone on to Aksu four or five days previously.

Crossing the Tarim at the ferry, we followed its course as closely as the nature of the country permitted. At first the jungle was exceedingly dense and thorny, and as there was very little trace of a path, it was sometimes no easy matter to make way through it. About 20 miles from the ferry we left the bush and entered a large plain covered with high grass, and extending for many miles, until at Tippak we left the river, and after crossing 13 miles of desert, reached the outskirts of Shah Yar. Six miles farther is the small town of Shah Yar, in the midst of rice-fields, containing about 2000 inhabitants, and the residence of a Chinese official styled Dalai, subordinate to the Amban of Kuchar.

As the camelmen who had brought our baggage from Khoten were unwilling to enter into a further engagement, and wished to return, we now made efforts to procure fresh carriage. The Dalai declined to give us any assistance, and, after making many frivolous excuses, ended by stating frankly, no doubt with perfect truth, that it was more than his place was worth to allow us to proceed any farther in the direction we had been travelling. I therefore went on to Kuchar and preferred my request to the superior Chinese officials. They were very civil and obliging, but at the same time showed a strong reluctance to sanction any more travelling off the main road. Eventually I carried my point on giving them a written assurance that no responsibility should attach to them in case of any mishap, and contenting myself with a caravan of donkeys—the only animals they declared that could travel in that part

of the country. The donkeys supplied were certainly very fine specimens of their kind, but it was not long before we found that they were peculiarly unsuited for the sort of ground we had to traverse.

At the last moment the Amban asked me to allow him to show me some hawking in the country I was going through, and I unsuspectingly consented. On returning to Shah Yar we received a most cordial welcome from the Mahommedan Begs of the district, whose acquaintance we had made during our former visit, and lost no time in again turning our steps towards the river. We had now been joined by fifteen mounted men, with among them nine hawks and two black eagles called Kara Kush or Birkut. The sport was interesting, but during the second day we discovered that they were conducting us by a circuitous route towards the high road I had been endeavouring to avoid, and that the hawkers were policemen in disguise with an inspector at their head, and a clerk whose duty it was to make a daily report of our movements to the Amban of Kuchar-in a word, that we were practically in the custody of the police. This undesirable escort was promptly dismissed. To my agreeable surprise, they made no difficulty about returning, and evidently looked on the game as up as soon as their scheme to put us on the main road had been detected by the aid of the compass. therefore parted on good terms, and I intrusted them with a friendly message to the Amban, thanking him for the sport I had enjoyed. were now once more free, and, altering our course, soon reached the bank of the northern branch of the Tarim. The route lay through a swampy tract covered with high reeds and rushes, and entirely submerged when the Tarim is in high flood. We found it very difficult ground for a caravan of laden donkeys. On the higher ground clear of the marsh, the soil is a fine saline dust in which the foot sinks deeply, and it is therefore very disagreeable and fatiguing to walk on. The general character of the country from Shah Yar to Kultokmit Kul, the point at which the two branches of the Tarim reunite, is a dense reedy swamp with occasional sheets of water in the area reached by the floodwaters, bordered by a desolate saline desert.

The Ugen river is not an independent stream, but a branch of the Tarim which reunites itself with the main channel at Kultokmit Kul. The Inchiki, or threadlike river, as it is appropriately called, is very narrow and deep, and flows between high banks. It is called the Shah Yar river farther west.

Up to the middle of November the weather had been very pleasant in camp, but the cold was now rapidly strengthening; and I therefore moved up to Karashahr, intending to go into winter quarters for a few weeks. Karashahr is a poor and dirty town inhabited by Tunganis and Chinese, with numerous encampments of Kalmaks in the vicinity. The Kalmaks expose their dead to be eaten by the ownerless dogs which swarm in the town; and I was told that it was no uncommon thing for

living persons lying drunk on the ground to be killed and eaten by the dogs. There is no improbability in the statement, as the Kalmaks are much addicted to drinking. I found Karashahr so unpleasant a place of residence that, as soon as I had satisfied the requirements of politeness by exchanging visits with the local officials, I retraced my steps to Kurla, a much larger and cleaner town, peopled by Turks who are preferable as neighbours to the forward and inquisitive Chinese and Tunganis. We were immediately accommodated in a large and comfortable house, and utilised the halt in purchasing and equipping a small caravan of ponies, and making preparations for the contemplated journey to the south. I became owner of 15 excellent baggageponies, equipped with bridles, clothing, and other necessary gear, for a little more than Rs. 1000. I also arranged for 43 donkey-loads of Indian corn to be delivered at Fort Kara Koshin in the Lob Nor district as a precautionary measure, in the event of supplies being difficult to obtain there. During our stay Dalgleish dispensed medicines of which I had brought a large stock, and as he was very successful in a few cases, sick people from the country soon thronged to the house in very inconvenient numbers.

I left Kurla on the 8th of February, and after exploring the course of the river, which flows past it, as far as Köenchi, struck down to Lob. Among the Turks of the districts I had hitherto visited, and also among the Chinese officials, the most extraordinary ignorance prevailed regarding the Lob people. We had been repeatedly assured that they were much addicted to robbery, and that our horses would certainly be stolen, that they were infidels who spoke an unknown language, and generally a very bad character was given them. All this proved to be the reverse of the truth, as they are all Mussulmans, speaking Turki, and I never so much as heard of the occurrence of a highway robberv. So far as I could see, the inhabitants of the Lob district are no worse than their neighbours, but they are poorer, and this no doubt is their real crime. On the other hand, the people of Lob are equally suspicious of all strangers, and do all in their power to discourage their entrance into the district. At any rumour of an outbreak of small-pox, a disease they much dread, in Kurla or its neighbourhood, the road is at once closed to all. It was now closed on account of a virulent form of sorethroat which had caused much mortality at Kurla; but a special exception was made in our favour, partly no doubt from the reputation which Dalgleish had acquired as a doctor. A short time previously I had found it necessary to abandon an intention of paying a flying visit to Kuldja by direct route from Karashahr, because the road had been closed by the Kalmaks as a precaution against the introduction of small-pox.

The Lob frontier station is Kultokmit Kul. In general character the country was similar to that we had seen so much of on the banks of the

Tarim higher up—swampy ground covered with reeds and high coarse grass, but we now had a good and easy road, as everything was frozen hard. In warm weather a circuitous road over the sand hills which fringe the swamp would have to be taken.

Nasir Hakim Beg, the principal officer of the district, accompanied us from Kultokmit Kul to his residence at Kirchin, where we were hospitably entertained. He assembled 40 or 50 horsemen during my stay to beat for tigers which had lately killed several of the villagers' cattle. We saw one which had lain up on the ice in the high reeds near a cow it had killed, and on hearing the noise made by the horse's feet, ascended a low mound of sand at a distance of about one-third of a mile from us to see what was coming. It was forthwith hotly pursued over the ice by the whole troop, but ineffectually, as it was not seen again. From Kirchin a road runs across the desert to Turfan, the district to which Lob is administratively attached, the Hakim Beg being subordinate to the Amban of Turfan.

The nearer we approached the Great Lake, the stronger grew the evidence of the miserable poverty of the district. Chaklik is the only place where we saw cultivation, and the only manufacture appears to be a kind of coarse cloth or sacking made from the fibre, resembling flax of a plant called "chigh." Apart from their sheep, the people depend mainly for subsistence upon fish, and on the ducks and wild fowls which visit the lake in enormous numbers at the time of the annual migrations. In return for the few imported goods they require, they barter sheep, the sacking above referred to, and the skins of otters, foxes, and wild swans. During the summer months, large parties of them move off into the mountains to obtain better pasture for their sheep and cattle, while avoiding the mosquitoes and other insects which abound near the lake, and also to shoot yak and wild asses for the sake of their hides.

Besides the natives of Lob, a small settlement of Khoten people, forming a distinct quarter of the village, is established at Chaklik. They remain under the jurisdiction of the Amban of Kiria, and are not under the Amban of Turfan. They are said to be refugees from Charchand, a place to which bad characters from the Khoten district used formerly to be banished. They are much smarter and more energetic than the Lob people proper, and make long journeys into the mountains in search of gold. It need hardly be said that there is a standing feud between them and the other inhabitants of the village.

I now experienced the advantage of possessing a small caravan of my own and a supply of grain. Had I been dependent on local supplies, I should have been obliged to pay very exorbitant rates for everything required, and in all probability, should have failed altogether to make the arrangements necessary for a long march. But when the people saw my baggage-ponies and the large stock of grain I had brought from Kurla, and purchased from the Hakim Beg at Kirchin, they moderated

their demands, and I was able to obtain additional stores and hired baggage-animals at rates not more than three times as high as those ruling at Kurla.

Chaklik is now a mere village, but, from the ruins of an old town wall still distinctly traceable, it would appear to have been a more important place at some former time. The old high road from Khoten to China probably passed by it, although there is now no intercourse between Lob and Sachu, the road being entirely disused. A Chinese official from the Governor-General at Urumtsi, who visited Chaklik during my stay there, was very anxious to go over the road and report on it, but could get nobody to point it out to him, no doubt because there was little probability of any payment for the guide being forthcoming. The Mandarin afterwards came to my tent to ask for information, and was shown the direction in which Sachu lay, and told the distance. Had I wished to go to Sachu, I should have found no difficulty in procuring a competent guide on payment.

A direct road runs from Chaklik to Kuchar, viâ Jigda Bashlam.

The weather during December, January, and February, though very cold, had been calm, clear, and fine; in March the cold was less severe, but high winds with frequent dust-storms prevailed and continued throughout April. Frosts ceased in the second week of April.

My preparations being complete, I struck camp on the 29th of that month, and started for a pass over the Altun Tagh mountains by which I should be able to reach the road from Abdal, used by the Kalmaks of Karashahr when travelling into Tibet. Our march was at first over the strip of barren land between the lake and the mountains, but after crossing the backbone of the range at the Tash Dawan, or stony pass, the country much improved and good patches of grazing were met with. This was followed by another barren tract at points in which, near the Ugen Shor plain, footprints of wild camels were conspicuous; and we then found ourselves at Bagh Tokai, where a halt was made in a large patch of excellent pasture-land for the benefit of the baggage-animals. The guide Abdulla and donkeymen engaged at Chaklik here became troublesome, and demanded that we should turn back, or at least go no farther in a southern direction. Though it was very inconvenient to part with them so soon, I feared that discontent might spread to my own servants and the donkeymen engaged at Kurla if I pressed them to go farther. They were therefore dismissed in disgrace. As soon as they saw that I had no intention of turning back they became very humble and begged to be kept on, but I thought it better not to consent to this, as the same thing would almost certainly have happened again a few days later. I therefore insisted on their forthwith moving off from the neighbourhood of my camp, retaining only one man who had been engaged as a guide from the Khoteni section of the village and had not joined the This involved our making very short marches for some malcontents.

days, and sending back some of the animals for a portion of the stores, as with our reduced transport all could not be carried at once.

We crossed the Chiman Tagh range of mountains by the Amban Achkan Pass. The view to the south from the top of the pass showed us a wide plain with a good deal of water about it, and another formidable range of snowy mountains beyond in the distance. A big lake called the Chong Kum Kul stretched away to the west farther than we could see, and a large river flowed down the plain from east to west, emptying itself into the lake. On descending we found that the plain was a huge morass which could not possibly be crossed by our baggage-animals, and we therefore had to follow the right bank of the river for some forty miles to the east before a place for crossing could be found. The Kalmaks, who usually leave Abdal in May and return from Lhassa in February or March, are able to cross this plain when homeward-bound in the winter, but are obliged in summer to make a circuit to avoid the morass.

The weather now became very cold, with frequent snowstorms, while the grass was so scanty and poor as to cause us much anxiety. After a few days, during which the evident doubt and uncertainty of our remaining guide were somewhat disquieting, we attempted the passage of the Kuen Lun range. Our guide had often assured us that the pass was an easy one, that he was well acquainted with it, and that on reaching the top we should see another wide plain before us intersected by the Kizil Su or Ma Chu river. However, he now was, or appeared to be, completely at fault, and after some hours of marching conducted us to the brink of a mighty precipice. Then with dramatic action he threw his sheepskin cap on the ground, struck himself twice on the forehead, sat down and wept aloud. We begged him to compose himself and try again, but it was unavailing; he could only repeat that he had quite lost the way, and did not know where the pass was.

· As soon as the tents had been pitched, I started to ascend a high peak near us from which a good view over the country could be obtained, but the prospect on reaching the summit after a stiff climb was most disheartening. There was no indication of any broad plain or any opening likely to lead to a pass, but a panorama of very lofty snow-clad mountains at least 50 or 60 miles deep was alone visible, and presented to all appearance a quite insurmountable barrier to our further progress southwards. After carefully considering the position, I decided to turn to the east and keep along the foot of the range until an opening was found. This also we found to be impossible, as the valley was absolutely sterile, being not only bare of vegetation, but without argals to serve as fuel. At the end of three days, and after being compelled to burn the ridge-pole of one of our tents, we struck through the mountains to the north in search of grass to save the lives of the animals, and happily found a less barren valley which brought us to a place called Bokalik, at which the people, who later in the year came from Khoten

and Charchan to dig for gold, maintain a sort of standing camp, leaving their baggage-animals to graze here while they push on to the gold-fields said to lie at a distance of about 50 miles to the south. No one had yet arrived. We now sent the Khoten guide back to his home at Chaklik, as he could be of no further use, and was another mouth to be filled from our diminishing stores.

The Bokalik valley is a continuation of the swampy valley we had entered after crossing the Amban Achkan Pass, though separated somewhere by a ridge, as the water was now flowing east instead of west. Our failure to find the pass to the south, if one exists, was a great misfortune, as the baggage-animals suffered severely from the total absence of forage, and the men too had been seriously alarmed by the uncertainty of the road, and the uninviting aspect of the country. Their confidence was now thoroughly shaken, and a quiet but constant and strict watch on them had in future to be kept to prevent any imprudence on their part.

A good deal of snow, hail, and rain fell while we were in this valley. About 17 miles below Bokalik we crossed a river flowing down from the Kuen Lun range, with a bed about 3 mile wide. The water was of a deep brick-red colour, and fell into the river in the centre of the valley which was now a very considerable stream. About 50 miles from Bokalik this river turned off to the north through an opening in the Chiman Tagh range, leaving us again in some perplexity as to the direction in which our march ought to be continued. I had made up my mind to work as straight as possible across country to the Naichi valley, where we hoped to find an encampment of nomads and good pasturage for the animals now reduced to little more than skin and bone. But we had no guide, and were directing our course entirely by compass and sextant, as the map for all this region shows a blank space. Before going further we determined to halt and explore a little both to north and south, Dalgleish following the river while I endeavoured to find a way through the mountains to the south. Dalgleish found traces of Mongol camps, and a well-marked path which at one point was entirely blocked by a fall of the mountain, making passage impossible without crossing and recrossing the stream—at this time of year quite unfordable. On the other hand I found no insuperable obstacle to our crossing the mountains to the south. In point of fact we were no great distance from Hajjar, the residence of the Chief of the Thaichinar Mongols. But in the map which accompanies Pandit A-K's explorations, this place is shown about 65 miles to the north-east of its real position, and apparently farther from us than Naichi. We therefore pushed on in the direction of the latter place, the road rapidly rising and bringing us into a very barren region. Snow fell on several days and lay on the ground. Eventually we crossed a pass which, though it presented no difficulty, was very trying to our exhausted animals, and entered a wide valley containing numerous lakes and much swampy ground. Hail or snow fell almost every day, and oppression of breathing was severely felt by nearly all of us.

It was now of importance to ascertain our exact position, for although we knew that we were somewhere about the latitude of Naichi, we had no means of fixing our longitude, and with every confidence in Dalgleish's care and skill as a navigator, it was impossible not to feel that we might be much further from Naichi than his dead reckoning showed us to be. For 80 days we had not seen a single human being outside the caravan, and my men were naturally gloomy and dispirited. I find no fault with them for this, as there was good ground for their distrust, and they had had much discomfort and hard work; while all our luxuries having long since been exhausted, flour, tea, and such meat as I could get by shooting was the sole ration. All through this march the wild animals were miserably lean and poor. They too had suffered from the scarcity of grazing. But our most serious anxiety was on account of the state of the baggage-animals, now only able to make very short marches with great difficulty. When, therefore, on the 20th July we suddenly came on unmistakable marks of human feet on the soft earth—even the most impassive members of our little company were somewhat excited, while the impulsive Turks threw themselves on the ground, kissed the footprints, and sobbed with delight. There were no more downcast looks now, and soon all in the highest spirits were busily engaged in pitching the tents on a spot where the camp-fires of the party before us were still warm. Our neighbours were pilgrims, several hundreds in numbers, from the provinces to the east of Kokonor, who were marching in three detachments to Lhassa. All carried arms of some kind, and were in great dread of a band of robbers believed to be lurking in the vicinity. We were now able to verify our position, and found that we were between the Kuen Lun and Khokosili ranges, and just south of the Angirtakshia Pass. Our position was indeed very nearly what we had supposed it to be, though but for the fortunate accident of the pilgrim caravan, only one or two of which go down this road annually, having crossed the plain a day before us, we should undoubtedly have pushed further on down the valley, and so missed the Naichi valley and the road to the south.

We now turned our steps northward to Naichi, not without much reluctance and misgiving on my part, as the best season of the year for travelling was commencing, but it was an absolute necessity to obtain fresh stores, and to rest and feed up both animals and men. The Angirtakshia Pass presented no difficulty whatever, but the Naichi Pass six miles further on was steep and trying to our exhausted baggage-animals. When covered with ice and snow it must be very difficult indeed. The number of wild animals in the neighbourhood of these passes was surprising; antelopes were incredibly numerous, and we

also saw herds of yak and kiang (wild asses). A few miles of easy descent brought us on the 25th July to Amthun, a camping-ground in the Naichi valley with good grazing, plenty of firewood and water from the Naichi Gol close at hand. There were no inhabitants, owing apparently to fear of robbers, and two days later I left Dalgleish in charge of the camp, and started for Golmo in search of stores with one Tartar and two Turkish servants. One of the latter, a Kalmak who had embraced the Mahommedan faith, spoke the Mongolian language. The road down the valley is difficult in summer from the depth of water in the river and the badness of the fords. I therefore made my way across the mountains by the Sosani Pass, which is steep and stony, and would be quite impracticable when covered with snow. On emerging from the Kuen Lun Range, a barren sandy desert lay before us, but following the course of a stream called Tora Gol, and keeping to the foot of the mountains, we reached a very desolate-looking piece of jungle. The ground here was saline and treacherous in many places. A narrow footpath leads through it which cannot be quitted except under penalty of sinking deep in a fetid quagmire from which animals can only be extricated with great difficulty. Beyond this the pasture grounds of the Thaichinar nomads appeared in view thickly dotted over with felt tents, and we pitched our tiny camp in the midst of them. After some delay, owing to the male population at that time of day (late in the afternoon) being mostly in a state of intoxication, I commenced negotiations for the purchase of stores. Sheep and butter were readily supplied, but barley and satu (meal made by grinding parched barley) could only be obtained in very small quantities and with much difficulty. There are no traders among these Mongols, each family gets from Khorlu once a year a supply of barley sufficient for its own requirements, and does not care to sell any part of it. Moreover, stocks were low as the harvest time was approaching. The people seemed quite unaccustomed to money transactions, and bargains were only made with a good deal of trouble. Had I brought with me a stock of goods for barter, such as tea and cloth, matters would have been much simplified. A party of Lamas gathering contributions for the great monastery at Kumbum were encamped here on my arrival. They had already collected several hundreds of horses and camels, a few horned cattle, and some thousands of sheep and goats.

Finding there was no chance of obtaining barley, I determined, on the advice of the Mongols, to move on to Bhaga Tsaidam, taking the road up the valley as far as Thugthé, and then striking across the saltwaste to the north. The heat on the salt-plain was great, and the ground being soft, and often covered with two or three inches of saturated brine, was most trying to the ponies, one of which died, and the others were much exhausted. Beyond, a rough path through the hills soon brought us to the lake of Bhaga Tsaidam, about six miles

long, which is strongly impregnated with salt. Here we found abundant signs of a recent large encampment of nomads, but in consequence, as we subsequently learned, of the occurrence of a case of small-pox, they had dispersed themselves over the country. This was inconvenient for reckoning with certainty on being able to procure food at Bhaga Tsaidam; I had brought with me only a very small supply, which was already exhausted. I now sent the two Turks back to Golmo, and started with the faithful Tartar, Dogpa, for Hoiduthara. The road was rough and the horses had both cast shoes, we were therefore obliged to walk and go very slowly.

I cannot refrain from here recording an act of great and unsolicited kindness shown us at this time by a young Lama who was travelling in company of a Chinaman towards Khorlu. Observing our exhausted condition, he hastened on to Hoiduthara, borrowed a pony, and immediately rode 10 miles back to meet us with food. With joyful shouts he first thrust into my hands a bag, made of the paunch of a sheep, full of water, then another small bag containing satu, and a third containing chura. We had then been almost without food for four days, and as may be supposed, never enjoyed a meal more. Considering that we were strangers and quite ignorant of the Mongolian language, and that our ragged and travel-stained appearance was not calculated to excite hopes of much being forthcoming in the way of reward, I was greatly touched by this kindness shown to us at a moment of sore need.

There was a good strip of country under barley at Hoiduthara, but only servants were in charge, as the farmers had gone off into the mountains with their flocks and herds to avoid the heat. The Mongols are a pastoral people, and look on agriculture as an inferior occupation which may be left entirely to servants. I have never seen more careless farming. No attempt at weeding is ever made, and in many fields the crop of weeds is larger than that of barley. The only field work needed at the time of my visit was the management of the irrigation, and this was attended to by labourers on horseback, who used a long stick to make openings in the channels, and so saved themselves the trouble of frequently dismounting. Mongolians seem quite incapable of walking; a woman will get on a pony to go 200 yards from her tent to milk her goats, and I noticed that men who were far too drunk to walk, or even to stand, seemed quite safe as soon as they had been lifted on to their horses.

The cultivators are prohibited from selling their grain by the Besi or Chief of Khorlu, who takes his revenue in kind, and claims the right to sell as much as he sees fit from his own stores before any one else can sell at all. All purchasers have therefore to present themselves before him in the first instance. He had just started to pay a visit to the Wang or head of the Mongols of this part of the country at Dulankit, not far from the Kokonor Lake. I therefore engaged horses and set off

at once in pursuit. Fortunately his camp for the day was in the hills at Choko, only 35 miles distant. I was, in the first instance, conducted to a large felt tent, which did duty as an antechamber, with a fire in the middle, on which stood a pan containing three or four gallons of boiling tea, while sacks of satu and chura and a wooden bowl of butter stood near the door. All comers helped themselves freely to these delicacies. Several sheep's tails were twisted into the lattice-work of the tent, from which visitors who preferred it to butter cut off pieces of fat from time to time, and ate them apparently uncooked. Afterwards the Besi and his wife, both in full dress, received me in their big tent, he wearing his official hat and robes and button as a noble of the Chinese Empire. The centre of the tent was occupied by two young women engaged in kneading a large piece of dough. After an amusing interview, the Besi gave me an order for barley, though not for the full quantity I required, but refused baggage-animals to carry it to Naichi on the ground that at this hot time of the year they would die on the road. He also objected to cross the Thaichinar valley to Naichi, because it was beyond his jurisdiction. It was impossible to induce him to yield on this point. There was indeed a good deal of force in his objections, as the Mongols never do take laden animals in the summer time across the salt-plain, where no fresh water can be got for long distances.

At Hoiduthara there was a Gompa or monastery of about 150 Buddhist priests and acolytes, located as is usual among the Mongols in a large felt tent. A Lama, who paid me a visit, informed me that the Gompa was going to change camp, and that many of the priests would probably be willing to sell their stock of mixed satu and chura (buttermilk boiled down to a powder) collected, a handful at a time, by begging from tent to tent. I at once authorised him to announce that I would buy all they brought me, and next day I was busily engaged in purchasing the offerings of the faithful, which were brought down by the priests in small quantities ranging from five pounds to half a pound. In the afternoon the monastery tent was struck, and the stream of monks came to an end.

I now started with Dogpa for Tenkalik, in the hope of being able to make further purchases, easily finding my way by the light of Pandit A.—K.'s description of the route. At Chakangnamaga, a grazing ground at the southern extremity of the Thosu-Nur Lake, I again met the Lamas returning to Kumbum, whom I had previously seen at Golmo. They seemed much pleased at the meeting, insisted on unloading my two ponies, pitching my tent for me, and regaling me with richly-buttered tea.

At Tenkalik I succeeded in purchasing some barley, and returned to Harmugan Namaga, near Golmo, where I rejoined Dalgleish and the camp after an absence of thirty-seven days. The road up the valley lay through thick jungle, with many bushes of a shrub called "harmo"

bearing berries, resembling red and black currants, but with little sweetness or taste. Horse-flies swarm at this time to such an extent that the Mongols have to drive off their ponies and cattle from some of the best pastures. A superior official had now arrived at Harmugan Naman from Hajjar, and it was soon apparent that we must not expect any assistance towards further exploration to the south. This was shown by the people declaring themselves unable either to grind some of the barley for us or to lend us the hand-mills required. I, therefore, did not waste time by asking for a guide, but started at once with Dalgleish and two servants—a Tartar and a Turk—and supplies for about a month, to see as much of the road to the south as possible. The other servants and spare baggage were left in charge of the Mongol official.

Snow had already commenced to fall on the hills, and we soon found that the ponies, though improved in condition, were still quite unfit for a long and hard march. By the time I had reached the Chu-Ma river, at the foot of the Khokosili mountains, I was driven to the conclusion that all thought of going further must be abandoned. My leave would expire in the following May, and if, as I had every reason to anticipate, my onward progress was stopped by the first official of the Lhassa Government I met, I should find myself unable to return before the spring, as the ponies would not be fit for the march back without a rest, and in the meantime the passes to the north would be closed. If this had happened I could not possibly have reached India until many months after the end of my leave. There was, therefore, no option but to turn back at once, to my very great regret.

From the impossibility of obtaining trustworthy information or a competent guide before leaving Chaklik, I had unavoidably lost much time. Had I to make the journey over again, I should start from Charchand, instead of Chaklik, whence Bagh Tokai is reached by a good road in twelve days, then cross the Amban Achkan Pass, and follow the valley south of the Chiman Tagh Range past Bokalik to Bulantai. From that point I should make as straight as possible for the Naichi valley, where a stay of some duration would be necessary to rest the baggage-animals. During the halt sheep, butter, and such other supplies as were procurable from Golmo might be sent for. Then the journey to the south might be resumed with a caravan in good marching order.

About 80 miles from Harmugan Namaga we reached Hajjar, the residence of the Jhasa or chief of the Thaichinar Mongols. The road lay through a miserable country, mostly desert and in parts covered with a saline efflorescence. I had now seen prett; nearly the whole of Thaichinar, and found it almost as poor as the Lob district. As a pasture-ground the Naichi valley is far superior to any other part of the tract of country under the Jhasa's jurisdiction, but it has the disadvantage of being too frequently visited by bands of robbers. A march of

about 90 miles from Hajjar over an uneven, barren, and desolate country, with occasional beds of salt, brought us to Makhai, the pasture-ground of a small settlement of nomads, and after travelling about 50 miles farther over similar country, and crossing a low range of hills by a pass called Kotuli-la, we reached the Obo or shrine in the Saithang plain where there is a large nomad camp. At the end of another 100 miles, we arrived at Sachu with a Chinese population.

The Mongols are a timid people and very poor. But I found them friendly and hospitable, and received from them many acts of kindness. They are extremely suspicious and troublesome to deal with in any matter of business, such as the purchase of stores. Being constantly cheated by the Chinese, they cannot believe that any one can mean to deal fairly by them, and an immediate assent to their terms or any liberal offer seemed to have the effect of doubling their suspicions, and causing them to raise some fresh obstacle. The town of Sachu is situated in a small but fertile oasis. It is on the right bank of the Danga Gol river, which is crossed by a wooden bridge about 70 yards in length. Each side of the town measures under half a mile. It is surrounded by a mud wall, in fairly good repair, with several gates surmounted by guard-houses of the usual Chinese junk pattern. The interior of the town is uninteresting, the houses are poor, and in many cases dilapidated, and there are no large buildings. Sundried bricks, mud, and timber are the only building materials. The town contains a bazaar with several good shops, but the trade is confined to a retail traffic for supply of the wants of the residents and of the Mongol nomads south of the mountains. Farmhouses are scattered along the banks of the river both above and below the town, and the land appears to be very carefully tilled. The river is the only source of water-supply, and outside the strip of irrigated land the country is a sandy desert. On the left bank of the Danga Gol, and about a mile above the present town, is the site of the old city of Sachu, the limits of which can easily be traced by the ruined walls still standing. The ground inside the wall has been ploughed up and cultivated.

We are informed that the direct road to Hami lay through a desert in which water was scarce, and were advised to turn east and join the great trunk road between China and Turkistan at Ghainshé or Uainshé, on which rest-houses have been erected where supplies are procurable. Ghainshé is about 60 miles from Sachu. It is a wretched place, very small, and in ruins for the most part. Mud forts, now dismantled and ruinous, were numerous between Sachu and Ghainshé.

A few hundred yards from the mud wall of Ghainshé we entered the desert and marched through it on a fairly good road for about 175 miles to a small village called El-Timar. Wood and grass were only procurable at the rest-houses and at famine prices. Thirty miles more over a plain covered with coarse grass brought us to the town of Hami.

Here we found ourselves once more among Europeans, as we were warmly and hospitably greeted by Mr. Splingaerd, a Belgian, who held the post of customs officer under the Chinese Government at Sachu, and had travelled over great part of China in the service of Baron Richthofen, and by two young Russian merchants, who seemed to have been having a bad time of it with the local officials, as one of them had been spending the last five months in jail on an apparently frivolous charge.

Hami comprises a Chinese town inside a small but neatly-built mud fort. Adjoining it is a large suburb containing the bazaars and numerous serais and dwelling-houses of Chinese and Tunganis. We put up in a Tungani's house in this suburb. About a quarter of a mile to the southwest is the old town, peopled exclusively by Turks under their own Wang or hereditary governor. The Wang left for Pekin on the day of our arrival at Hami, as he is required to present himself there on New Year's Day every ninth year. With the exception of the Wang's house, the old town is miserably built. Several officers of the late Amir Yakub Beg are in exile here. They of course remembered Sir D. Forsyth's mission, and on hearing that we were English were very attentive. I abstained from visiting the principal man among them, Muhammad Khan, formerly Hakin Beg of Kashgar, only because I feared by so doing I might increase the suspicions of the Chinese, and perhaps hinder their liberation, for which petitions from the principal Mussulman inhabitants of Turkistan had been forwarded to the governor-general at Urumtsi.

There is but little cultivated land in the immediate vicinity of Hami, and I was informed that the bulk of the land, both arable and pasture, belonging to the residents, is at a distance of several miles within the mountains to the north. The town is well supplied with excellent coal, and also with pine-wood used both as timber and for fuel. The extensive cantonments and official buildings to the west of the town built only a few years back were dismantled on the transfer to Urumtsi of the seat of government. It appears to be customary with the Chinese to destroy any buildings that are no longer required for the purpose for which they were provided, in order that the last occupant may make a little money by selling the materials. They are never transferred for use by any other department of the government. This procedure is irritating to the Turks, who have to furnish the timber and much of the labour employed in constructing the buildings. From Hami our road lay through grass land for about 45 miles to the village of Jigda, then over 145 miles of desert to Pichan, where is a small fort and a guard of 100 Chinese soldiers. This was the frontier outpost of Kashgaria under the Amir. The country now improved, and we passed through cultivated and grass land for the remaining 55 miles to Turfan, where we put up in a trader's serai in the centre of the Mahommedan town.

On nearing Turfan we passed through the ruins of an ancient town, in which a large tomb with a minaret 200 feet high is conspicuous.

The Mahommedan town is about 1½ miles to the west of the Chinese town, and the distance across it from the eastern to the western gate is about a mile.

Both the city of Turfan and the country in the neighbourhood are irrigated by karezes or underground canals from springs at the foot of the hills. This is the case all the way from Pichan, there being no irrigation from streams.

The Tungani and Chinese element predominates in the population.

I was able to cash Government of India currency notes at Turfan. The discount charged was heavy, but that Indian paper money should be negotiable at all in so remote a place shows how widespread is the confidence of Asiatics in the good faith of the Government of India. Twenty-eight miles from Turfan is the little town of Toktasun, where we were hospitably entertained by the chief Beg. From this point we made an excursion to Urumtsi, about 95 miles distant, passing about half-way the small town of Dawan Chin with a Tungani population. The siege and capture of the fort of Dawan Chin and politic release of the prisoners taken, with the exception of such as were Andijanis, with a small present of money to each, were incidents in the advance of the Chinese troops to reoccupy the country nine years ago.

Urumtsi, the headquarters of the Chinese Government of Turkistan, is situated in a broad valley within the Tian Shan range, watered by a large stream which flows from the southern side of the mountains. It consists of a cluster of nine or ten separate small walled towns. The population is mixed, comprising Manchus, Chinese, Tunganis, and Turks, and there is a large bazaar stocked with Chinese and Russian wares. From November to March the climate is very severe, but the city is well supplied with coal and charcoal of excellent quality. My visit took place in the middle of December.

Liu Joshwé, the Governor-General of Turkistan, and the only man in the province permitted to use a palanquin, was very attentive to me during the seven days of my stay in Urumtsi. He made many enquiries about India, and seemed especially curious regarding the exact nature of the relations between the British Government and Afghanistan, and of the events at Panjdeh in 1885. He seems to be popular with all classes of the people throughout the province, and enjoys the prestige of having regained Turkistan for the Chinese in 1878, and governed it ever since.

Returning to Toktasun, we pushed on without delay to Karashahr, distant about 145 miles, over a generally barren country, much of the road running through low hills. There is a good deal of traffic upon this road, and long strings of camels carrying frozen fish from the Baghrash Lake for sale in Urumtsi were especially noticeable. We passed Karashahr without halting, and put up at our old quarters in Kurla, where a very cordial reception awaited us.

Beyond Kurla the road still ran through a generally barren country, though somewhat less forlorn and desolate than that further to the east. At several of the halting-places we found small patches of cultivation and a tiny bazaar. Eighty-five miles from Kurla the large walled village of Yengi Hissar was reached, and 21 miles further the small town of Bugar, locally famous for its manufacture of rugs. Kuchar, a town of about 15,000 inhabitants, with extensive suburbs, lies about 70 miles further west. A solitary Indian Mussulman has settled down here and acquired some land. He had been unable to communicate with his friends in Ludhiana for several years. I undertook to convey a letter from him to them—a promise which was duly fulfilled.

We had intended to halt at Kuchar for a day or two, but the throng of people which collected immediately on our arrival, drawn by Dalgleish's reputation as a physician, was so embarrassing that we were obliged to make our escape by slipping away the next morning before daylight. A number of persons suffering from various ailments nevertheless pursued us on horseback to the next stage. The only place of any importance between Kuchar and Aksu is the small town of Bai, famous for the excellence of its dairy produce.

Very large burial-grounds are passed through when drawing near to Aksu from the east. The city is invisible until closely approached, as it lies just beneath a very high bank. The Chinese city is about 6½ miles from the old Mahommedan town, in which we were provided with most comfortable lodgings. Indian currency notes were here easily disposed of at a discount of about 6 per cent. The road from Aksu to Yarkand via the small town and fort of Maralbashi runs for the most part through jungle and desert. Along the road for a considerable distance the Chinese have constructed a large embankment, to prevent the country being submerged when the river is in flood.

Since leaving Kurla we had avoided the huge comfortless Chinese rest-houses, and put up in private houses whenever it was possible to do so. Our reception was always friendly and hospitable on the part of the Dolan shepherds in the country round Maralbashi, no less than of the Turks of the towns and larger virlages.

I had now completed the circuit of Chinese Turkistan, and, Kashgar excepted, had visited almost every important place in it.

The chief characteristic of the country is its extreme poverty. It may indeed be described as a huge desert fringed by a few small patches of cultivation. The only really good strip of country of considerable size is the western portion, comprising Kargalik, Yarkand, and Kashgar. To the north a succession of very small cases extends along the foot of the Tian Shan Mountains, the stretches of intervening desert becoming larger as the traveller goes further to the east. The eastern extremity of the province is desert pure and simple, and so is the southern extremity as far west as Kiria, with the exception of the small cases of

Charchand and Chaklik. The central portion is chiefly desert, except that pasture of a coarse and inferior description is found in the neighbourhood of the Tarim river and of parts of the Lob Nor lake system. There are probably many districts in India in charge of a single collector and magistrate, which are richer and better worth having than the whole of this huge province, extending over not much less than 20 degrees of longitude and 6 degrees of latitude.

Sanguine expectations have from time to time been entertained of the development of a large trade with Turkistan, but judging from the poverty of the country, the sparseness of the population, and the absence of any manufacturing industries except on the most petty scale, it appears to me impossible that such anticipations can ever be realised. The volume of trade, either with India or Russia, must, I am disposed to think, always remain insignificant.

Any discussion of our political relations with Turkistan would be out of place here. I may, however, without impropriety say that so far as my personal experience goes, the most friendly feeling appears to exist towards England on the part both of the subject Mahommedan population and of the officials of the Chinese Government. At present the Chinese seem to be adopting a conciliatory policy towards the Mussulmans, due perhaps to a consciousness that their position in Turkistan is not altogether secure. Occasional instances of ill-treatment of individuals occur, but, on the whole, so far as my observation extended, their rule is not a harsh one. The tortures and detestable cruelties practised on criminals and accused persons, as described by travellers in China Proper, are almost unknown in Turkistan, except that the punishment of the cage is sometimes resorted to and severe beatings are often inflicted. Complete religious toleration is maintained. Crime is repressed, and life and property are in ordinary times as safe in Turkistan as in British India. The prestige of the Chinese stands very high, and they are looked up to much as Englishmen used to be in India some years ago. Among the people generally, more confidence seems to be felt in the Chinese than in the Mussulman officials.

The most glaring evil in the administration is the prevalence of official corruption, which is intensified by the uncertain tenure of office and the frequent transfers of the superior functionaries, but as a whole, I do not think the Chinese régime in Turkistan compares unfavourably with other Asiatic governments, such, e.g. as those of many Native States in India. In spite of their absurd self-conceit and other peculiarities, the Chinese appeared to me to be by no means altogether wanting in the better characteristics of a ruling class, and to be quite the superiors of the Turks in decision, moderation, intelligence, and the other qualities which fit men for positions of authority.

The Chinese have no military strength in Turkistan that could for a moment resist the advance of European troops. To an unprofessional

eye there seemed to be good raw material among the soldiery, but the men are undisciplined and poorly armed, while the officers are utterly inefficient and often addicted to opium.

China is an unaggressive and not unfriendly neighbour, and our good wishes may therefore go with her efforts to maintain and consolidate her authority.

I left Yarkand on the 7th March, 1887, and travelled by Kargalik and Kugiar to Leh, crossing the Yengi Dawan or New Pass on the 27th March and the Karakoram Pass on the 5th April. The cold was severe, and much snow lay on the ground to the south of the Karakoram in Chai Josh Jilga and as far as Yepchand. I returned by the Kashmir route through Srinagar to Rawalpindi, and reached Simla on the 27th May last, having exceeded my leave of absence by one day.

I am indebted to the kindness of Colonel Haig, R.E., Deputy Surveyor-General of India, in charge of the Trigonometrical Surveys, for the map on the scale of eight miles to an inch which accompanies this paper. It has been constructed from a route-sketch, with explanatory notes kept up at my request by Mr. Dalgleish. Colonel Haig informs me that the latitudes deduced from Mr. Dalgleish's observations made with a pocket sextant are very accordant, and that the sketch and notes form a valuable record of the country traversed. I have placed the original sketch and notes at the disposal of the Royal Geographical Society, which is thus in a position to judge of the care and accuracy with which this tedious task has been performed, and all I need say on the subject is that whatever credit is due for the maintenance of the record belongs entirely and solely to Mr. Dalgleish.

Apart from this, the accomplishment of the trip without any serious hitch is mainly due to the assistance I received from this staunch comrade. His knowledge of the Turki and Persian languages and skill in the management of a caravan and in dealing with Asiatics were invaluable. That the journey was completed without the loss of a single baggage pony, and that the caravan existed for close upon four months without any renewal of supplies, I attribute to his constant vigilance and good arrangements.

The stores with which we left Chaklik on the 29th April, 1886, consisted of—7250 lb. of corn, 750 lb. of dried lucerne grass, 1320 lb. of wheat flour, 675 lb. of rice, 170 lb. of satu, 106 lb. of biscuits, 60 lb. of ghee, a large bag of tea; and nothing more was obtained until the caravan reached Harmugan Namaga on the 1st September following, with the exception of some butter, brick tea, and sheep, which I sent to Naichi from Golmo, and which reached Dalgleish on the 16th of August.

^{*.*} The discussion on the foregoing paper will appear in the January No. of the 'Proceedings.'