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## A JOURNEY ACROSS TIBET, FROM NORTH TO SOUTH, AND WEST TO LADAK.\*

By ST. GEORGE R. LITLEDALE.

WE left England on November 10, 1894, the same party as usual:—Mrs. Littledale, myself, and our dog, accompanied in addition by my nephew, Mr. W. A. L. Fletcher, of Oxford University boating renown, who proved himself to be in every respect an admirable travelling companion. My scheme was to strain every nerve to reach Tibet, and, if possible, Lhasa, with plenty of food and animals to carry it. Most of the other expeditions had failed owing to their arriving in a more or less destitute condition, and then, of course, the Tibetans could dictate their own terms. We also relied upon bribery, and went well prepared with the sinews of war for wholesale corruption.

Travelling by Constantinople and Tiflis, we reached Samarkand just as the winter set in. Encased in several thicknesses of fur, we drove to Osh. The cold was so intense that one day five out of the six post-boys at Uratiube were sent to the hospital badly frost-bitten, and our tarantass one night broke through the ice into a river, and was instantly frozen fast. At Osh Colonel Grombchefsky had ordered yurts, firewood, etc., to be ready for us at every march across the Tian Shan, and, thanks to his excellent arrangements, we crossed the Terek pass (12,700 feet) in midwinter without any material discomfort. I may take this opportunity of saying that, as on previous occasions, nothing could possibly exceed the kindness shown to us by all and every Russian official with whom we were thrown in contact. Our guns, stores, and baggage were passed through the customs unopened; Count Rostoffsoff, governor of Samarkand, had ordered a

\* Paper read at the Royal Geographical Society, February 24, 1896. Maps, p. 576.  
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# ROUTE ACROSS TIBET FROM CHERCHEN TO TENGRI NOR AND LEH

Surveyed by St George R Littledale  
1895.

Scale of Statute Miles, (Approx.)  
1: 1,000,000 or 16 Miles = 1 inch

Mr Littledale's Route  
Heights in Feet.

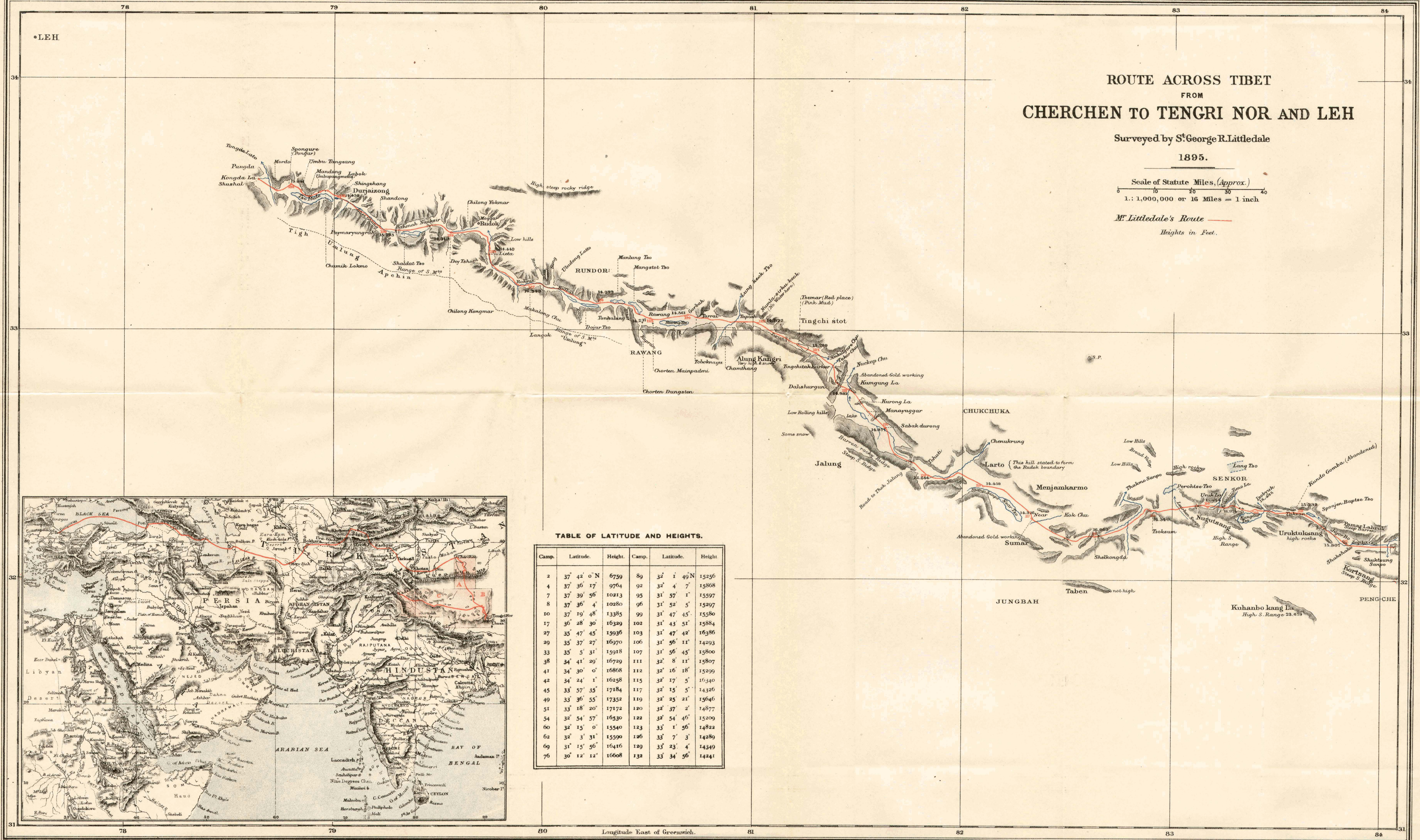
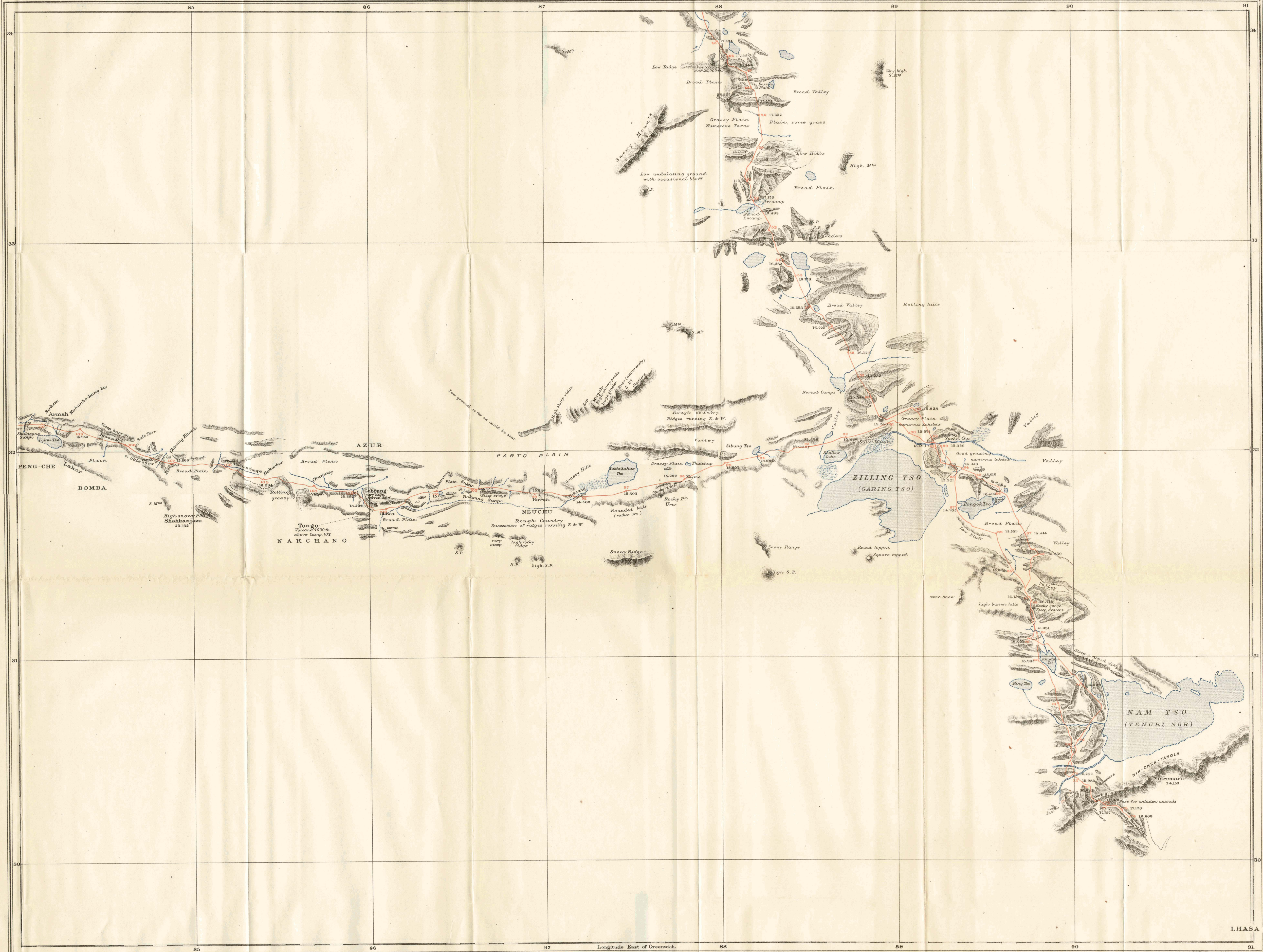


TABLE OF LATITUDE AND HEIGHTS.

Camp.	Latitude.	Height.	Camp.	Latitude.	Height.
2	37° 42' 0" N	6759	89	32° 1' 49" N	15256
4	37° 36' 17"	9764	92	32° 4' 7"	15868
7	37° 39' 56"	10213	95	31° 57' 1"	15597
8	37° 36' 4"	10280	96	31° 52' 5"	15297
10	37° 19' 48"	13385	99	31° 47' 45"	15580
17	36° 28' 30"	16329	102	31° 43' 51"	15884
27	35° 47' 45"	15936	103	31° 47' 42"	16386
29	35° 37' 27"	16970	106	31° 56' 11"	14293
33	35° 5' 31"	15918	107	31° 56' 45"	15800
38	34° 41' 29"	16729	111	32° 8' 11"	15807
41	34° 30' 0"	16868	112	32° 16' 18"	15299
42	34° 24' 1"	16258	115	32° 17' 5"	16340
45	33° 57' 35"	17184	117	32° 15' 5"	14326
49	33° 36' 55"	17352	119	32° 25' 21"	15646
51	33° 18' 20"	17172	120	32° 37' 2"	14877
54	32° 54' 57"	16530	122	32° 54' 46"	15209
60	32° 15' 0"	15540	123	33° 1' 56"	14822
62	32° 3' 31"	15590	126	33° 7' 3"	14280
69	31° 15' 56"	16416	129	33° 23' 4"	14349
76	30° 12' 12"	16608	132	33° 34' 56"	14241









86

Longitude East 87 of Greenwich.

88



special carriage for us on the train, and sent men to Osh to look out for our heavy baggage.

We arrived in Kashgar on January 5, 1895, and remained for some time under Mr. Macartney's hospitable roof, which was our last taste of the comforts of civilization until the middle of November, when Captain Trench, the deputy-commissioner, kindly received us in his charming house at Srinagar. We found four Ladakis, who had been sent from Leh, waiting for us; but four Pathans we were also expecting had not turned up. We were loath to go without them, as we had been counting on them to stand by us in the case of a scrimmage. The Ladakis, though excellent men in their way, would be of doubtful value in a situation of that kind. We waited there ten days for them, and just as we were starting for Yarkand they joined us. They had had fearful weather on the Karakoram, and three out of the four had their feet frost-bitten. A British native hospital assistant travelled with them, and this wretched man had never attempted to wash or dress their wounds, which were in consequence more serious than they need have been. The Chinese in Turkistan are a very under-sized, effeminate, and degraded race. In passing through the bazaars, a man was overheard to say, "These barbarians, after all, have some men among them." I presume Mr. Fletcher's 6 feet 3 inches called forth the remark.

The Taotai of Kashgar informed us that it was quite true the Japanese had taken Port Arthur, but that afterwards the Chinese had turned them out. An official, who had drilled and armed some 200 men European fashion, once asked the Taotai of Urumtsi to review them. He simply turned his back upon them, and said, "What can they do, compared with the brave soldiers with whom I reconquered this province." We were kindly invited to a Chinese dinner by some official. First there came eight dishes of sweets, out in small pieces, and rather prettily arranged; then followed sharks' fins, sea-slugs, bamboo shoots, and numberless greasy dishes. Among the guests was Dr. Sven Hedin, who added considerably to the merriment of the party.

The road from Kashgar to Yarkand, about 120 miles, was very uninteresting, ankle-deep in dust. We had some grand views of the Mustagh-Ata and the Gez defile. Every poti (approximately 3 miles) there were square towers about 20 feet high, with crenelated tops, serving the double purpose of watch-towers and milestones. Like everything else in China, they were falling to pieces. Their locations had been chosen more with a view of saving cost by having either stones or bricks handy, than with any regard to the distances they were supposed to measure. At Yarkand we were located in a house which would have been charming in summer, but which was quite unsuited to the arctic weather which we then had. With the help of the British aksakal we commenced to buy our caravan, and

we very soon found that not only were prices materially higher than at Kurla, but the stamp of animal was inferior. After the caravan season is over, horses are tied up in sheds all winter, and their hoofs consequently grow to an abnormal length. The hoof is so tough that the English process of paring them down would be too tedious. The horse is made to stand on a block of wood, and with a chisel and a few blows of a heavy hammer the hoof is shortened. We abandoned all idea of taking camels on discovering that, even travelling empty, they would in all probability be foot-sore, and require a long rest at Cherchen; so we decided to substitute mules and donkeys. While we were buying some mules there was a desperate fight between an onlooker and a Chinese mule-owner, the onlooker trying to persuade the other man to sell. It is a curious custom that you cannot buy the merest trifle in the streets without an "honest" broker turning up, who acts as mediator, and the seller has to be entreated, even threatened, by his friend, to induce him to sell, which he does eventually with apparently the greatest reluctance. Not having been able to procure any rupees or Indian currency notes in London before starting, we purchased all that were offered us. The pilgrims, who formerly used to pass through Russian Turkistan, now, for some reason or other, seem to prefer going to Mekka *via* India, and as they absorb a large amount of Indian currency, the price of rupees was very high.

Considering the extremely difficult nature of the country that lies between Rawal Pindi, the railway shipping point, and Yarkand, a distance of over 500 miles, in the course of which no less than five high passes have to be surmounted, and a large extent of barren country to be crossed, it says a good deal for the enterprise and energy of the merchants, that there should be any interchange of commodities between India and Central Asia by the Karakoram route, and it is therefore doubly satisfactory to find that during the last year there has been a large increase of trade. This is, no doubt, partially owing to the opening of a cart-road from Kashmir to the plains of India, the popularity of which road is proved by the long string of carts and other vehicles which are incessantly passing up and down. Great as was the cost in the first instance of making the road down the valley of the Jhelum, and large as are the sums that have yearly to be spent in repairs, there is little doubt that it will prove indirectly a most remunerative investment for the Kashmir Durbar. A capital caravan-track has also been made from Srinagar to the Ladak frontier, to the excellence of which we can personally testify.

On leaving Yarkand, February 4, the weather became warmer; the greater part of the way was deep sand, and the horses must have been very tough to drag the carts through it. On the road we were overtaken by the frost-bitten men, who had been left behind in Kashgar to be doctored by the Russian hospital assistant, thanks to the kindness

of M. Petrovski, who, as on our previous journey, proved himself to be a true friend. Two were doing well, but the havildar's foot was not in at all a satisfactory condition. We had to become doctors and hospital nurses in addition to our multifarious duties.

Both in Yarkand and Khotan goitre is very prevalent. We noticed that the enlargement is usually on the right side of the neck, though sometimes on both, and it generally forms two distinct lumps like cricket-balls, one below the other; the natives say it is never fatal. Theoretically, the Chinese monetary system is very convenient: 10 fen = 1 miscal, and 10 miscal = 1 seer; but, unfortunately, all payments are made in tengahs, sixteen of which go to a seer in Kashgar, and only eight in Khotan, so confusion results. We made every effort to buy old manuscripts. We went to visit a native who I was told privately had one. He was a very deep old gentleman, and professed not to understand what was wanted, and eventually we had to leave without even seeing it. The manuscript, could we have got hold of it, ought to have proved interesting. A native, who had seen it, said that it was written on antelope skin in ancient characters, and that it described all the treasures that had been hidden in the neighbourhood ages ago.

Khotan has been celebrated for its jade for upwards of two thousand years, and the manufactory of the raw stone into bangles, amulets, etc., is still carried on, though there is no work now done here that will bear comparison with the fine jade carving in China. We were offered some ornaments that at first blush we took for fine specimens of jade, but which on examination proved to be glass. We detected the imposition in time, and were thus more fortunate than a distinguished Russian traveller, who bought a magnificent jade vase with the intention of presenting it to the late emperor. In his case, the fraud was not discovered till the vase arrived in St. Petersburg to have a suitable case made for it.

During our stay at Khotan we were very busy buying and branding horses, mules, and donkeys, and laying in large supplies of everything that we could not buy in Cherchen; milk and cream being plentiful, we churned in bottles a good deal of butter, which we salted and soldered up in tins. Our mules cost us from £6 to £10 apiece, the ponies about £4, and the donkeys about £1; Indian corn a farthing a pound. The houses here have no windows, only a hole in the roof. After a few days, the feeling of being boxed-in becomes very depressing. Our men captured a couple of thieves on the roof of a house, and they were well thrashed. We have given out that the next lot will be thrashed first, and then handed over to the tender mercy of the Amban.

From Khotan we went to Keria in carts, passing on the way a good deal of desert. Beyond Keria it was said to be impossible to take our carts, so we paid them off and hired horses and donkeys to Cherchen,

our own animals going nearly empty to save them. From Keria to Cherchen there are two roads. The more southerly follows close along the foot of the mountains, and there is said to be good grass and water most of the way. The northern road, which we followed, goes nearly straight, and is several days shorter; both grass and water are scarce and bad. This road is only used in winter, it being almost impassable in the summer owing to the flies and want of water. Occasionally we would come to small streams, which, descending from the mountains to the south of us, would run north and lose themselves in the sand of the Takla Makan. The Amban at Keria told us that formerly he heard that



BOAT LADEN WITH BAGGAGE ON THE SAOCHU CHU.

people used to cross the desert to Kuchar, but now nobody ever attempted it or knew the road.

A kind of broom grows very plentifully on the top of steep-sided mounds, sometimes 15 and 18 feet high; the mounds appear to be raised either by the dust collecting in the branches of the plant, when the buried portion of the branches strike new lateral roots and the top puts out new shoots, or by the roots preventing the light pulverized soil from being blown away, or by both these causes combined. In crossing sandhills, I noticed that wherever the sand was in small undulations like the waves of a pond, it was fairly solid, but when the sand had a smooth surface, the horses usually sank in deeply. The windward side of a sandhill was never at so steep an angle as the lee side; I accounted for it in the following manner. Each grain of sand is half protected by the grain below it from the wind, so that it stays there; other grains of sand



are blown over the top one and roll down the lee side till a platform is made large enough for a fresh grain to rest on the summit, half showing above the one below it; and so the mound goes on getting higher and higher till a shift of wind comes which blows the top of the hill away, and the former lee side, now the windward one, is at a sufficiently gentle angle to allow the wind to roll the grains of sand uphill, and so the process goes on.

The natives tell the most marvellous stories of the gold and precious stones that they dig up from the ruins of the cities buried by the sand. They make regular expeditions into the desert to recover lost treasures, and many of them had strange tales about old fortified cities which were guarded by ancient men in quaint Chinese costumes, speaking an unknown tongue. The only water-supply of a small village between Keria and Nia was a well 120 feet deep; the hauling of water must be a severe tax on the inhabitants, as it is all done by hand. The whole of our caravan had to be watered there, as we had the next day a long march of 35 or 40 miles to Nia, the nearest drinking-place. Here we hired some more horses to go to Cherchen for the reasonable sum of 6*s.* 8*d.* a horse, a ten or twelve days' journey with no chance of a return hire. We sent on four men, who were to keep ahead of us and deepen the wells along the road, which are rarely more than 6 feet deep, and are constantly filling up with drifting sand. The large number of animals we had then with us required a good deal of water. At one camp we found the water in the wells quite undrinkable; none of the animals even would touch it, so we determined to dig a fresh well for ourselves. The donkey with tools not having come in, the Ladakis set to work with their bare hands, and they had got down 4 feet before the caravan arrived. A couple of feet deeper we found plenty of good water. In old wells the saltness of the water is due to continual evaporation of the water, while the salt that is in the water does not evaporate; consequently the water and the neighbouring soil becomes gradually more and more impregnated with salt. Precisely the same thing goes on in every lake that has no outlet. We afterwards discovered that wherever chi grass grows, there is always water within 5 or 6 feet of the surface. Between Nia and Cherchen there were hardly any inhabitants, only a few shepherds here and there. Occasionally we would pass forests of poplar and stretches of chi grass, but the bulk of the country was dry sand, and whenever we climbed an elevation we could always see, stretching away to the northern horizon, mound after mound and ridge beyond ridge of the moistureless shifting sand of which the horrible desert of the Taklamakan consists.

On March 19 we reached Cherchen. There is no town proper, but the houses are dotted here and there amidst irrigation fields; we did not see a single Chinaman, all the inhabitants apparently being Turkis.



We were informed that the mountain range called the Tokus Dawan would be impassable for three months. Being incredulous, we sent off a couple of our own men to see, and while they were gone we purchased supplies largely. We were lucky enough to hit off one of the only two bazaars that are held annually in the place. The people who came to the fair made extremely convenient temporary hammocks for their babies out of men's coats, which were slung by the arms from tree to tree, the little things remaining in them quite contentedly while their parents attended to their business. We had some tent-pegs made here for fivepence apiece. How they can sell them for the money I



NEAR THE GORING LA.

cannot conceive. All the iron comes from Yarkand, and it must reach there either from India or Russia, an immense distance in either case. As an instance of how rapidly vegetation comes on with the warm weather, on April 5 the apricot trees only showed faint indications of buds; two days later they were shedding their blossoms. We ran short of change, so we followed the custom of the country and sent some of our big lumps of silver to the blacksmith, who, under careful surveillance, cut them up into little bits. We took with us 25,000 lbs. of Indian corn for our animals, and six months' provision for ourselves and men. Our caravan consisted of 250 animals, but of these, 130 or 140 were hired with the understanding that they were to return on reaching the south side of the Akka-Tagh. The caravan people to a man declared that they had never been so far south as the Akka-Tagh—a statement which we much doubted. Through the dilatoriness of the natives, we could not start before April 12. We had in our employ a Ladaki who accompanied



Monsieur Dutreuil de Rhins, and had been somewhere in this district; but he accounted for his utter want of knowledge of the country by the statement that when he was here before he was snow-blind. He strained his back soon after leaving Cherchen, and we sent him down from the mountains with some hired horses. We soon left all cultivation behind, and marched up the Cherchen river through a barren sandy country to the Tokus Dawan. Leaving the river, we twisted and turned up narrow valleys having steep clay hills on either hand, with at first little or no grazing, but sufficient bortza for fuel. Some days after we rejoined the rapid muddy Cherchen river flowing through a deep valley, bounded on the south by the snow-clad Tokus Dawan. In one place the rocks descended steeply into the river, but by making a road we were able to lead our animals over safely one by one. The following day we tried to ford the river, but, finding it impossible, marched along its banks for a couple of days before we could cross, thus wasting three or four days before we could make further progress south. After crossing, we turned down stream again, and eventually camped in a valley where there was good grazing and water.

At our next camp grass was very scarce, and there was no water. Soon after we came to the Cherchen river for the third time. It here flowed through a marsh, which was fortunately frozen through solid, with the exception of the main channel, that had cut through the ice, leaving perpendicular sides 4 or 5 feet high. After finding a ford, we had to hack with axes an inclined path to the level of the water on each side of the river to enable the animals to descend. Our caravan was so large that it took some hours getting it across. The first detachment got over easily; but later, as the sun got power, big sheets of ice came tearing down stream. A sharp look-out had to be kept to avoid disaster. While I was on horseback in mid-stream, helping a man who was trying to save one of our animals which was being carried down the stream, a piece of ice struck my pony behind, and we were carried down 50 yards before I could get clear; the animal, fortunately for me, kept his legs, for the water was bitterly cold. We marched up a broad plain, the snowy Akka-Tagh being still to the south, and we here saw our first Tibet antelope (*Pantholops Hodgsonii*) and kyang (*Equus hemionus*). As we went on both game and grass grew scarcer, and at our camp there was next to none. Here a deputation of our drivers came asking permission to go back with their animals, pleading the want of grass. We put them off with fair words, and plodded on some days through utter barrenness.

On April 28, in bitter weather and snowing hard, we crossed a pass. There was little or no vegetation, and the Ladakis said they felt the breathing more than on the Karakoram. Soon after crossing we found slight vegetation, but as we went on that ceased, and we had to camp in a plain where there was absolutely nothing for our animals to eat.



Ahead of us, as far as we could see, there were high mountains. Having no guide, we took the most likely looking valley, and it ended in our camping near the summit of a pass in intense cold, where there was neither grass nor fuel. Having brought for an occasion like this some tins of Silver's self-boiling soup, personally we did pretty well. There was plenty of ice, but no fuel, so we could not melt it, and had a dry camp. A valuable horse died here. As he was travelling empty, I suppose the great elevation was the cause. The next day things looked very black; there were no signs during our march of either grass or fuel till evening, when the valley suddenly opened out, and to our



A TYPICAL TIBETAN VALLEY.

great relief on the other side of a broad plain we saw water and grass, and in the distance a frozen lake. To the south hills appeared, low, and, as the lake had no apparent outlet, we imagined we were over the Akka-Tagh and on the Tibet plateau. Two of our men who I sent on to see the country ahead reported it all right, so we paid off our hirelings with the exception of some donkeys, which their owners agreed to take a week's journey further. I very soon found that we were not over the Akka-Tagh at all, and that our men, who were supposed to have crossed the hills to the south, had deceived us, and had never done so; so, taking a Ladaki with me, I made several efforts to find a suitable pass over the mountains. On climbing a ridge to the south, instead of finding myself, as I hoped, on the edge of the Tibetan plateau, I saw in front seven extinct volcanoes; three were small, but four of them



were grand fellows. They stood quite apart, and were unconnected either with themselves or with the Akka-Tagh, which lay further south. The summits of the volcanoes were so covered with masses of snow and ice that it was not possible to see their craters; and between us and the Akka-Tagh lay such a rough, barren country, that we decided to spare our animals and look elsewhere for a passage. It took us ten days before we discovered a pass and collected our animals, which had been dispersed by a heavy snowstorm.

We crossed the Akka-Tagh on May 15. The pass, though not steep, was high and long, and it cost us the lives of five or six donkeys and a couple of horses. We found ourselves at last on the Tibetan plateau, having lakes and low mountains to the south, as far as could be seen, and to the north we had the high range of the Akka-Tagh, with fine glaciers and snowfields. By angles taken from several different points, I measured two peaks close together, which towered above their neighbours, and I made them out to be 25,340 feet. This great upshoot of the Earth's surface, which from its enormous elevation and size deserves, in its central part, far more than the Pamirs the name "Roof of the World," may be considered to commence in the west with the Pamirs, where, however, its physical character differs in some parts considerably from the central or Tibetan portion, which again bears little resemblance to its eastern continuation on the confines of China. On the Pamirs we find a high mountainous country. Where the rivers are fairly large and rapid, the valleys are precipitous; in other parts, where the streams are unimportant, the country is more undulating in character, and the lakes are, with some notable exceptions, fresh. The Tibetan plateau proper, which probably has an average height quite 2000 feet in excess of the Pamirs, has, in its northern part especially, a very small rainfall, and in the absence of rivers the drainage of the country finds its way into one or other of the innumerable lakes, which, having no outlet, are salt. Except in the volcanic country, the valleys are broad and open. The eastern end, however, is the cradle of numerous large rivers which discharge their waters into the Indian Ocean and China Sea, and which in the course of ages have worn deep channels, and entirely changed the character of the country. Nearly the whole of this large district lies above timber-line, and it would, I imagine, be possible to travel from the Pamirs to within a short distance of China proper, about 30 degrees of longitude, without ever seeing a tree or shrub higher than an umbrella.

We purchased here the pick of our hired animals, and the others went back, thus severing our last link with the outer world. Our party consisted of our three selves and ten men, thirteen in all, an unlucky number; but we decided to get over the difficulty by counting in our terrier, which had much more sense than some members of the party. A Turki who had agreed to come with us, and who as an inducement had



received a good many months' wages in advance, here evidently intended to bolt back to Cherchen, and as we were terribly short-handed we took the liberty of decorating him for a few nights with a pair of handcuffs. He afterwards proved to be quite one of our best men.

We passed through a volcanic country with little grass, and water rather scarce. Later in the summer the grass would be better, but in May there was only the previous year's growth, which had had all its nutriment weathered out of it, and our animals began to suffer severely. Owing to the scarcity of fodder they wandered a great deal, and we had constantly either to make a very late start or stay a day while the missing



A TIBETAN GROUP IN THE GORING TANGU VALLEY.

animals were found. Antelope were fairly numerous, and in some cases absurdly tame. One old buck followed alongside me, gradually edging nearer and nearer till he was within 40 yards; he then trotted round in front and stopped till he got our wind, and then went off. He evidently had never seen a white man before. We were on a part of the Chang where there was no trace of human beings, and no reason why there should be any. Water was very scarce. We frequently found a small spring or patch of snow sufficient for our party, but the animals had to make many dry camps. One morning our flock of nineteen sheep were missing, and it turned out that the men through carelessness had not tied them up the previous night, and the wolves had killed every one, giving them each a bite on the throat and leaving them. We now had to rely entirely on our rifles for food. Owing to the high altitude, scarcity of food, and



cold, our animals began to die off at an appalling rate, and my nephew and I had to give up our riding-ponies to carry the stores. Having to walk made our work rather severe, as, in addition to packing and repacking our animals, going ahead to find the road for the morrow, we had also to make a special tramp for our dinner, unless we had had the good luck to shoot some game during our march. The mountains ahead looking very uninviting, the caravan bashi and I started off for a couple of days to see if we could find a road over them. In the distance we saw a high volcanic-looking hill, to the top of which we struggled, and had a capital bird's-eye view of the country. We had seen for some time previously what looked like a continuous high snowy range stretching east and west right across our course, and how we were to get over it had been the cause of much anxiety, but I was relieved to find that what had appeared from down below to be one range, was really an unconnected succession of short ridges and peaks; in fact, after we left the Akka-Tagh we never saw a single continuous mountain range till we came to the Ninchen-Tangla, south of the Tengri-Nor.

On returning to camp, I found that, although stationary, our animals were dying in an ominous way, and the survivors were so weak that when they fell or lay down, we had to lift them on to their legs again. We had utilized every scrap of felt we possessed to make extra clothing and hoods for our donkeys, but all to no purpose; the mortality was terrible. After making one more march, we decided that everything that could possibly be spared must be abandoned, clothes, camp furniture, and natural history specimens, horse shoes, even the very bindings of books which were essential, were ruthlessly abandoned. Our men, seeing new clothes thus thrown away, wished to exchange their own rags for them; we told them they might take what they liked, but if any one took a coat, for instance, he must leave his own in exchange. It was, perhaps, a little difficult to arrange an exact equivalent for some ladies' garments. A very fine yak's head was among the condemned articles, and it was a source of almost secret satisfaction to find, a couple of days afterwards, that it had been carried on by mistake. The following day, however, things became still more critical, and it had to go with the rest.

We travelled on for some time with a dwindling stud over a succession of passes of no great height above the general run of the country, but many of them were steep, and all trying for our weak, exhausted caravan. Not a day passed but several animals had to be shot or abandoned. It is a gruesome subject which I will not further pursue. We passed three very conspicuous volcanoes, which must have been considerably over 20,000 feet. They had made excellent landmarks for some time previously. Between  $36^{\circ} 50'$  and  $33^{\circ} 50'$  N. lat., our path lay through a very volcanic region, numerous undoubted volcanoes being visible. South of  $33^{\circ} 50'$  I did not notice any, till three months later we passed the conspicuous volcano Tongo. We struggled on, and just as



things were getting desperate we found some excellent grazing, and we stayed for a week to fatten up our animals. The weather became milder, and those beasts which were not too far gone regained strength rapidly; the poor animals ate incessantly from morning to night.

June 26, lat.  $33^{\circ} 12' N.$ , and long.  $88^{\circ} 12' E.$ , was remarkable for two things: we had the first rain since leaving the Black Sea in November—and I think at this point we first came under the influence of the south-west monsoon; the skies became more cloudy as we went south, and we frequently had small showers—and we saw the first men since Cherchen, in the middle of April. These men were Tibetans, and



LAMAS' ENCAMPMENT WITH PILES OF FIREWOOD.

had large flocks of sheep and herds of yak, and they were collecting large piles of salt from the lake near their camp for the monasteries of Lhasa. We kept sentries over our horses all night and day, and we watched their camp carefully to see if we had been discovered or if they moved. We examined the ground, and decided it would be impossible to get over the large plain on which they were encamped without being seen unless we made a night march, so at sunset we started. We had not gone far before we stuck in a swamp, and there was every prospect of our having to remain there all night and being discovered in the morning, but we managed to struggle through just as the moon set, and, marching all night, we camped at dawn in a secluded valley across the plain. We always went on ahead of the caravan, and looked carefully over the ground with our telescopes, and whenever we saw any



encampments we used to try and avoid them by changing our route, and if that was impossible, then by making night marches. Just at one critical time, when passing at night close to an encampment, the donkey carrying our pet cock and hen chose to tumble, and there was a great cackling and fuss; then a mule trod on our Turki dog, who gave a piteous howl. I found a luminous match-box a great assistance in reading the prismatic compass during the night marches when a lantern was impossible. One small herd of yak, which was right in our track, caused us great anxiety, but it turned out afterwards that they were wild ones. We were making very short marches, camping each day as soon as we got good grazing, and doing everything in our power to get our animals strong after the terrible ordeal they had passed.

We were everlastingly crossing from one lake basin to another, but as we got south the gradients became less steep than what we had met with further north. Game was here scarce and wild, but large herds of kyang, sometimes two and three hundred in a drove, would gallop and wheel round our donkey train. We passed along the east side of the lake called by Captain Bower Garing Cho, into which runs a river, which we were unable to ford. We could not go further east, because the plain was alive with herds of yak and sheep, and we should have been discovered; so we constructed a sort of boat, using our camp beds to make a framework, which we covered with the waterproof ground-sheet of our tent. It answered capitally, and with a rope from side to side we ferried ourselves and all our stores over dry. Our animals swam across. The following day we found the plain deserted; the herds had all been driven about 10 miles to the south. At first we were afraid we had been discovered, as one of our mules had strayed close to a Tibetan camp. Finding it impossible to get past unseen to the west, we turned more to the east. Seen from a distance, the shores of the Pongok Tso appeared to be piled up with ice-floes, but on getting closer we found the white appearance was due to salt. The grazing in this district was of the most luxurious description, and our animals were now in capital condition. There were so many encampments about, that we were liable to be discovered at any moment. We stopped within a mile and a half of one encampment, but by keeping our animals in a ravine till dusk, and letting them feed at night, we were unnoticed. At last we came to a valley in which we counted thirty tents; thinking it quite useless to attempt any further concealment, we decided to go straight through them. We kept up on the hills till the last moment, and then went between the encampments, and to our amazement got through undiscovered. They took us for a trading party. We had made our natives keep the caravan bunched together; Mrs. Littledale, Mr. Fletcher, and I, having removed our hats, kept out of sight amongst the baggage animals. We waited till dusk before we dared pitch our tents, for they would have instantly betrayed us. The following day, however, we had to pass up a narrow ravine in which



there were some shepherds. The men, on seeing us, pluckily bolted up the mountains, leaving their wives in charge; then the murder was out, and they came and asked us to stop till they could communicate with their headmen. They appeared to be a very good-natured lot of people, and were very friendly, laughing and talking with our men. It was palpable that the common people bear strangers no ill will, and that all the trouble springs from Lhasa.

We now entirely changed our tactics, and pushed on as hard as we could, and, our animals being in good condition and having very light loads, we travelled very fast. We calculated that we could reach Lhasa in eight forced marches, and we had kept sixteen donkey-loads of grain through all our troubles for this occasion, so our animals got a feed of corn night and morning. The local officials came and entreated us to stop, informing us that they would all be executed if they allowed us to pass; and as we travelled, bands of men, armed with matchlocks, and with swords stuck through their belts, kept on either side of us, and every morning some official would try entreaties and threats. Our object was to push on so fast that they would not have time to collect their militia in sufficient numbers to stop us. Having no guides, we were often at a loss as to the best road to take, but on one occasion this helped us considerably. Turning one evening up a valley, we camped, but not liking the look on ahead, we retraced our steps early next morning. That move completely upset the plans of the Tibetans; they had evidently thought we were going that way, and the bulk of the men had gone on ahead, and we made the next day's march unmolested. On approaching difficult ground the Tibetans would always stop behind, and leave us to flounder amongst the rocks or swamps, and whenever any of them stated that there was no road in a certain direction we knew we were not wanted to go that way, so when in doubt we always did the opposite to what they advised. We crossed a low pass, and then came in sight of the Tengri-Nor, locally known by the name of Nam-Tso = Great Sky Lake, vividly blue, stretching away far to the east, with here and there a small island. A number of promontories jutted into the lake from the north, while on the south it was fringed by the magnificent range of the Ninchen-Tangla;—a succession of snow-clad peaks and glaciers, partially hidden in clouds and vapour, which added to their size and grandeur, while above all towered with cliffs of appalling steepness the great peak of Charemaru, 24,153 feet. From this point of view it was, perhaps, one of the most impressive mountains I had ever seen; but as we went further south, and changed our point of view, we found that it was not a needle-shaped rock piercing the sky, but a sharp ridge, having a peak at either end. In the Lama survey map of Tibet, published 1733, there is a mountain marked Chimuran, in very much the same position as Charemaru; the similarity of the names can hardly be accidental. We passed within a few



miles of the monastery Dorkia Lagu Dong, but an intervening hill prevented our seeing it.

As we approached the Ninchen Tangla, we were very much perplexed as to how we were to cross that mass of snow and ice, and another obstacle in a deep rapid river appeared. We wasted a couple of hours in finding a ford, which was a bad one at the best. Here the Tibetans came up in a body and announced that they would not allow us on any terms to cross the river, and on advancing, a determined picturesque-looking individual seized my bridle; I whipped out my revolver, and he immediately let go. We forded the river, watched by the party with scowling looks. We had not the faintest notion up which valley, if any, the pass was, and men whom we sent out over the plain to find a track returned without information. One Ladaki, however, who had been sent to watch a man who we thought was going with a letter to the Deva Jung, and from whose movements we hoped to get an inkling of the Lhasa road, announced that he had seen some laden yak, which must, he thought, have come down one of two valleys; so we headed the caravan in that direction on the chance, and camped in the dark in pelting rain, everybody quite tired out; for since we had been discovered we had not only to march all day, but keep guard over our animals all night. At midnight we sent our two most reliable men to see if they could find a road. One, on returning, said the grass in a valley was all eaten short, and he thought it might be the right valley; so we started next morning.

None of the Tibetans were now to be seen, which made us rather uneasy, for it proved one of two things: either we were on the wrong road, or they had gone on ahead to hold some strong position. The latter was the case. We found them occupying both sides of a narrow ravine, lying down behind stones, with only rows and rows of black heads visible. As we approached, some six or eight men came out to meet us, and they said they would shoot if we advanced. I pulled out my Chinese passport, and said it was given by a greater man than any at Lhasa. But it was all to no purpose; give us leave to advance they would not. So I told our men to load their rifles. The three sepoys had Colt's lightning-repeaters—and very handy weapons they were; Mr. Fletcher and three other men had expresses, etc.; I a Mannlicher; and the rest of the party had theodolite and camera-legs put into spare gun-covers, and they made a brave show. Mrs. Littledale was very indignant with me because I would not let her have a rifle, and insisted on her keeping back among the baggage-animals. I turned round to see which of our men were going to back us up, and there were the three Pathans, nursing their rifles, looking at me with murder in their eyes, impatiently awaiting the signal to begin. If any nation is counting on our Indian soldiers not proving to be fully a match for any troops they may be sent against, I can assure them they are making a grievous



mistake. Here were these men, who had been through the Kabul war and knew what fighting meant, ready to face hopeless odds simply because their sahib ordered them. They did not know what we did, that our opponents were such utter cowards that the odds were very much against their having the pluck to fight at all. Our bluff succeeded; the matches of their guns were extinguished, they did not fire, and we passed unharmed. A Tibetan headman said afterwards to one of the Ladakis, "These foreigners must be a great people." He replied, "Of course they are; when they go to Peking they are always honoured guests of the Emperor of China!" We pushed on up the pass, which formed a water-parting between the Tibetan plateau and the country drained by the Brahmaputra river. We found by keeping to the rocks we avoided the glacier, which was much crevassed.

We reached the summit of the Goring La (19,587 feet) about 4 p.m. We waited some hours for our animals to come up, but the donkeys were not able to get over that night; so, leaving a guard with them, we started down the glacier, as night was coming on, in a snowstorm which covered up all tracks, and we had to grope our way, avoiding crevasses by sounding each step with an alpenstock—a far more dangerous business than facing any number of Tibetan matchlockmen. On camping we found that every scrap of food was with our donkeys, and so all idea of a rush for Lhasa had to be abandoned. When they arrived they were all so played out we stopped a day. A Tibetan swell came with about a hundred men: he was such a comical, roundabout, jovial-looking man. While talking he gesticulated and grimaced to an extraordinary degree. He wore a broad-brimmed hat carefully covered with green oil silk. On the principle of not cheapening ourselves, we professed to be dissatisfied with his rank, told him that we would neither stop nor discuss our plans with any little man, and pushed on. He kept repeating, "Kuch, kuch," with his thumbs up in the air, and making signs with his hand across his throat. The numbers opposing us increased rapidly, and at last I thought it prudent to ask the headman if he would really lose his head if we advanced. He replied, "Undoubtedly." So I told him that, though his rank was beneath our contempt, still, as he seemed a decent sort of fellow, we would stop for his sake. He informed us that he would probably be fined a rupee for every footprint our horses had made this side of the pass. The latitude of this camp was 30° 12' 12" N. The natives said they ordinarily took two marches, but, with a good horse, could go to Lhasa in a day. He asked if it was true that there was a big tree near Calcutta, out of the branches of which came all the heat of India; and whether our telescopes enabled us to see right through the mountains.

The next day three more Lamas arrived. They professed great pleasure at seeing us, but wished to know why we had undertaken such a journey. They were told we had come to make our salaams to the Dalai Lama.



Things did not progress. They asked if we would not go back, and they would not allow us to go forward, what did I think would happen? I answered by another question, What did they think would happen when the news reached India that we, bearing Chinese and English passports, had been shot while passing peaceably through their country? They hurriedly said there would be no fighting. Our negotiations went on for about a week; we at last declined to discuss further the question of returning, and all stood up in our tent to show the interview was at an end. Daily letters were all this time passing between them and Lhasa. We were left alone for some days, and amused ourselves by catching butterflies and making botanical collections. Wishing to keep on good terms with the Lamas, we did no shooting, as of course it is contrary to their tenets to take life so near their sacred city. My attempts to measure some of the men were not successful; they were frightened to death of the Lamas, so I did not persist. All the Lamas that we met in this part of the world belonged to the yellow or orthodox sect; but in Ladak the Lamas wore red, the distinguishing sign of the unreformed Church. I descended the valley some distance, and climbed a mountain, hoping by the aid of my telescope to see some of the monasteries round Lhasa, but a high intervening range cut off the view. From this point we were 48 or 49 miles from Lhasa. More negotiations followed. We declined to abate our demands, which were that we should have an interview with the Dalai Lama, stay a couple of days in Lhasa, and return to India by the Jelap La and Sikkim. Two more high officials with several smaller Lamas then arrived. One was said to be the governor of Lhasa, the other head of the soldiers. "Back the way you came, and at once; those are the orders of the Dalai Lama, which must be obeyed," was the burden of their song. After some days, finding that we would not give way, they showed the first sign of weakening by offering to let us return by China; then they tried to induce us to go to Ladak by the Chang; and finally they announced if we would only re-cross the pass we could go where we liked, and by whichever way we liked. We still remained pig-headed, and they wrote for more instructions. They seemed to be terribly afraid of poison, and would not touch our tea till we had drunk some first. They received with incredulity my statement that in England a poisoning case was not only exceedingly rare, but that it was looked upon as a particularly odious crime.

The Lamas had brought a trader with them as interpreter, Wohab-jew by name; he had made six trips to India, and spoke Hindustani fairly well; with him we had long talks. He said the present Dalai Lama is about twenty, and that he was to come of age that November; then the Rajah of Lhasa, who acted as regent, would lose his power and retire into private life. He went on to say that the two last Dalai Lamas had died between the ages of eighteen and twenty. It seems to be a peculiarly fatal period in Dalai Lama life, as the death-rate was



much understated. The last four Lamas, instead of only two, having been reincarnated about those ages, I am curious to hear if the present one has followed the example of his predecessors. This regent has held office for forty years; he doubtless, therefore, is in a position to give some interesting details of the last illnesses of two Dalai Lamas. It should be explained that the soul of the Dalai Lama never really dies; it descends to some infant, whom it is the business of the Lama priesthood to discover. I could not make out by what particular signs the new Dalai Lama is identified, but the Lamas with whom I conversed would not admit the possibility of a mistake. When found he is brought in great state to Lhasa, surrounded by crowds of Lamas, who educate him for the position he is so seldom allowed to fill. The present Dalai Lama was discovered in baby form at Thokpo, five days from Lhasa; his father was a Zamindar, but both parents are now dead. His three brothers are alive, and have risen with him, and are now great people in Lhasa. The Teshu Lama at Shigatze is also under age, being a boy of twelve or thirteen, who, during his minority, is under the tutelage of Lhasa. When a Tibetan Lama or layman dies, they carry the body to a mountain, cut it in pieces, and the vultures do the rest; and they entreated us to let loose a vulture we had captured alive, saying there was no means of knowing who he might represent. But when the Dalai Lama dies, he is embalmed, and they insert gold and jewels into his face to the value sometimes of one or two lacs. The three great incarnations, the Dalai Lama, Teshu Lama, and the Taranath Lama, are all equally holy, and their sedan chairs, when in Lhasa, are each carried by eight bearers, but the two Chinese mandarins are only allowed four bearers apiece.

The Lhasa merchants are forbidden by the Deva Jung to use the Jelap-La and Darjiling road, and are compelled to travel either by Bhutan, where they would certainly be looted, or Nepal, where, in addition to a tax of 5 Rs. per head, they have heavy transit duties to pay. Last spring a large deputation of over a hundred merchants asked the regent to open the Darjiling road; but he refused, declining to give a reason. Wohabjew did not think Tibet could long remain closed, and all the merchants would be delighted when they could come and go as they liked. The Tibetans living near the Jelap-La travelled backwards and forwards, but no Lhasa or Shigatze man can go direct to Darjiling. One of the Lamas had been on the frontier during the Sikkim row, and said he was quite aware of the power of the Indian Government, but the other Lamas had lived all their lives at Lhasa, and thought themselves all-powerful, and had no notion how weak Tibet really was. Another Lama told me that a high official left Lhasa to fight the Japanese; he cut a lot of sheep in pieces, so naturally after that the Japs had no chance, and were utterly defeated. A Tibetan announced he could cure one of our sick horses, and he poured some



medicine into its right nostril. He told us, had it been a mare, he would of course have treated the left nostril. His nostrum was a success. Many of our beasts fell sick here, and I think the one he doctored was the only recovery we had.

The people here wear such heavy earrings that, to prevent the lobe of the ear being torn by the weight, they support the earring with a strap over the ear. They rarely have a pair alike. Some of the rich Lamas had very large pearls mounted in gold, with turquoises. They wore a kind of semi-Chinese costume. Their handkerchiefs were made in the form of a sachet quilted inside, with which they simply pinched their noses; they had every appearance of being heirlooms. The boots of the common people were made of parti-coloured cloth reaching nearly to the knee, with horsehair soles knotted together with twine. Their coats are cut very long, but were strapped up short round the waist with a big fold, and only allowed to reach to the knee. At night the garment is let down to cover their legs. Most of the people slip their coats off the right arm and go about bare to the shoulder. They wear a sword stuck diagonally through their clothes, only the handle and the lower part of the scabbard being shown. Those parts are usually highly ornamented, the centre of the sword, which is hidden, being, for economy's sake, left quite plain; besides, they are armed with a match-lock gun, and many of them carry a lance in addition. The people here, both in regard to clothes and jewellery, seem to be pretty well to do; but the further west we went the poorer the people became, though even there nearly every man had a horse, and in no part of Tibet did we meet with such rags and apparent poverty as in Eastern Ladak.

Meanwhile, the Lamas were at their wits' end. We had food for a couple of months, so they could not boycott us. We had sufficient animals, and the snow-pass by which we crossed the valley was liable to be closed early in September, an event for which we were praying. Everything promised well, for they had no resource left but force, which they palpably dared not use; and, absurd as it may sound, so insecure did they feel of their position, that, though there were upwards of five hundred men camped just below us, and more above, they actually had destroyed all the bridges between us and Lhasa. The Goring Tangu valley, 16,600 feet, in which we were camped, was very wet and cold. Mrs. Littledale, who had been more or less indisposed for some months, now became so alarmingly ill, we saw it was impossible to remain here much longer. The Lamas wrote to the Deva Jung, saying that we wished to hurry through to India for medical advice; but directly the Lhasa people found that we could not stay, then their tone altered, and they reverted to their original order of "Back the way you came." I explained to them that the passes would be closed, and it meant certain death; but nothing our Lamas said would alter that determination. We could not understand why there was such a long delay between sending this



letter and the arrival of the answer, till the messenger told us, privately, that he had had to take it to all the lamaseries round Lhasa, at each of which there were meetings of Lamas. Altogether, I am afraid we caused a considerable flutter in the Lama dovecot.

Until Mrs. Littledale's illness, our prospects had looked so bright that for motives of economy we had refrained from writing and offering a bribe direct to the regent; but now I wrote, proposing to give to their temples fifty silver yamboos (1 Yamboo = £8 or £9) if they would allow us to pass through Lhasa and go to Sikkim. The Lamas with us would neither send the letter themselves nor allow one of our men to take it. We felt that things had come to such a pass that we were quite justified in taking extreme measures, so we saddled up our horses and notified the Lamas that we were going to fight our way through to Sikkim. That brought them to earth again, and they said they would supply us with everything we required, and we could go back to Ladak; to which road I consented, much to Mrs. Littledale's indignation. It was heart-breaking work, having to turn back when so near our goal, but it had to be done. I absolutely refused to go back a yard unless they first gave us a circular letter ordering all Tibetans to help and not delay us. They were reluctant, but we were firm, and they gave way. When the letter arrived, fortunately one of our Ladakis could read Tibetan. The precious document said that we must go north, and not put one foot in Tibetan territory. This we indignantly tore up and demanded another, which, after prolonged negotiations, was eventually given us. Mrs. Littledale was now so weak that riding was impossible, so we sent down to Lhasa for wood and manufactured a litter for her, and broke in some of our mules to carry it. On inquiry, we were told that there were then only two litters in Lhasa, one belonging to the Dalai Lama, and the other to the Chinese Amban. We sent polite messages to them both, inquiring their terms, but neither would sell. We thought it prudent to purchase about fifty horses, and sent to Lhasa for what we required to make up three months' supply for the party, so that we hoped to be quite independent of the natives should they prove faithless. The soap they sent us was scented, made like cucumber and tomatoes; the tobacco, Wills' Bristol Bird's Eye; so they are evidently quite up to date. They had used a queer old print of a London church some time last century to wrap up some grocery. We started on August 29 on our long march of 1200 miles to Kashmir. It being quite impracticable for mules to take the litter over the Goring La, Mrs. Littledale was carried by twenty men to the foot of the glacier. She rode a yak over the ice, and the men carried her down the rocks the other side. The work at that elevation was of such a terribly hard character, that I promised the men two rupees apiece per day if they got her over safely. The Lamas took the money, and the men got nothing. And it was just the same with

the horses and supplies; we paid exorbitantly for everything without bettering the poor unfortunate peasants one farthing. It really seemed to us that the only way to get even with these gentry would be, firstly, to vow and declare that you had entered the country by the way you really wished to leave it, and then, when they said, "Go back to whence you came," you could gracefully acquiesce; secondly, plead utter poverty: they must get you out of the place, and your not paying would affect nobody's pocket but the Lamas—the peasants, of course, getting nothing in either case.

We had agreed to go north to the Sachu Chu, the river we had crossed with our boat when going south, and then go west through Ladak; and the Lamas had promised we should have men and yak to help us, but they broke faith in this, as they had repeatedly done in other matters previously. After crossing the river the Lama and his men returned, leaving us alone. We had become so accustomed to finding our own way that we did not in the least want guides, but we did require help badly with our caravan, as two men were required for Mrs. Littledale's palki, two for the donkeys, and one for the sheep and goats; it only left five men for about sixty horses and mules, and our new animals, always having been accustomed to be led on a march, the Tibetan system, finding themselves loose, used to gallop off like mad things and scatter their loads all over the country.

Almost without exception every lake in this country has greatly decreased in size, and the process is still going on; there are lines of gravel, sometimes six or eight, one above the other, showing the height the water once had been, and marks high up along the rocks, as much as 200 feet above the present water-level, were occasionally found. On the sides of the hills surrounding the Lakor Tso the marks were peculiarly distinct. In past times the size of the lakes must have been vastly larger than at the present day. I noticed in several instances that when lakes had divided into several smaller ones by the subsidence of the water, the top of the ridge of land separating them was usually about 40 yards wide, perfectly level, and having the appearance of an artificially made dam or railway embankment. There was capital grazing in most places, the grass much resembling the bunch grass of the Western States. The country ahead promised to be easy travelling, and so it proved to be—valleys joining on to each other with gentle passes right up to the Ladak frontier, a great contrast to the country south of Cherchen, which resembles a ploughed field on a gigantic scale; and as our course unfortunately did not lie up a furrow, we had to cross from ridge to ridge. For the greater portion of the way from Zilling Tso to Ladak, our route lay to the south of that taken by Nain Sing, Captain Bower's, of course, being north of that again. We wished to have kept about 60 miles further south and traversed the Dokthol province, but feared being delayed had we done so.



We were joined by a couple of men, who said they had been sent by the headman of Senja Jong. After some days they provided yak for us to save our own horses, and we paid hire for them, which they put in their own pockets. When they left, they sent for a local official, and told him that he was to provide us with yak, and hand us over to the next district official, and then they said it was quite unnecessary to pay any hire for the animals provided. Wishing to be honest, we at first did pay; but when we found that the Kushoks, Tibetan officials, took from the yak-owners every atom of money we gave them, we concluded we would save our pockets. Occasionally an opportunity would occur of giving a little present surreptitiously. When a new Tibetan official is appointed he sends presents to his superior, which gifts have to be repeated every third year; they consist of horses, sheep, cloth, etc. The official does not give the present out of his own pocket, but everybody in his district has to contribute. On one occasion our large Turki dog went for a Tibetan dog, and, after vanquishing him in a free fight, proceeded, as was his invariable custom, to lie down on the top of his foe with his tail curled tightly on his back. The other dog gave most piteous, heart-rending howls, all to no purpose; suddenly our dog jumped up with a piercing yell, and bolted away with his tail tight between his legs, and began to bite his paw viciously. It appeared that he had knocked and held the other dog down on the embers of the cook's fire; but things bore a very different complexion when his own foot went into the ashes.

We were travelling as fast as we could, for not only was it necessary to get medical advice for Mrs. Littledale, but we were afraid that we might find the Chang La and Zoji La closed, and in consequence the mortality among our animals again became heavy. On September 22 we sighted some very volcanic-looking mountains; one was a great dome-shaped mass of black lava, and its summit was quite 4000 feet above our camp; another was streaked with red. No Tibetan is allowed to pasture his animals out of his own district; if he does, he is liable to have them seized and have to pay a fine; and nobody except Lhasa people are allowed to work at the gold mines. We passed a good many abandoned gold diggings. The work is done in summer with shovel and pan; in winter, of course, it would be impossible—the water would freeze. Previously the gold-workers had done well, but last season had been disastrous, and little gold was got. After leaving the Tengri-Nor on our return journey, we never saw but one lot of Tibetan antelope the whole way to Leh, but we passed through a grand *Ovis Ammon* and Burrel country; we used constantly to see them and ravine deer as we marched along.

On October 10 we saw ahead the snowy mass of the Aling Gangri. Two or three years before one of our men had been close to there trading from Leh, and recognized it, and all the Ladakis were wildly excited at

the thought of being near home. While at Chukchuka, he said, news reached the Tibetans that a sahib (Captain Bower) had passed to the north, and the intelligence was forwarded on to Lhasa. A very busy, important Tibetan arrived in camp just as we were starting, and ordered us to immediately return to the Tengri-Nor, from which point we were to be sent back to Cherochen—the way we came, only a trifle of about 1500 miles. He said it was no use talking; here was a letter from the Deva Jung, and back we must go. I made one of the Ladakis read it. It said we were to be turned back wherever we might be; nobody might help us, and we were not allowed to put one foot in Tibetan territory. It was written the same day, and signed by the same Lama that gave us our letter—a pretty piece of treachery. This old villain, the head Lama, was so very sanctimonious, that when I insisted, in the Goring Tangu valley, on having every word of our treaty thoroughly explained to me, he kept saying, "I am an old man, and shall soon die; do you think I wish to cheat you?" I showed the new arrival our letter, ordered the men to load their rifles—on doing which there was a general scattering of the Tibetan escort—our donkey-men, who had gone on ahead and had been turned back, were told to start, and the Tibetan was informed that his life was not worth a minute's purchase if he dared to make any attempt to stop them or us again. I never saw anybody so crestfallen; I really felt sorry for the fellow; he had come up a very big man indeed. Disregarding all his entreaties to stop, we marched on, and the Deva rode off to his chief for fresh instructions.

There were two ways we might have gone to Leh, one by Gar and the Upper Indus, the other by Rudok, and we were undecided which to take, when our official returned and said if he could not induce us to return we were to go by the Indus, but under no circumstances were we to be allowed by Rudok. That settled the question, and we started at once for Rudok. Not being able to carry all our things—for they declined to give us yak—we left behind a lot of stores, and told the headman that we were going to reside in the monastery until our own animals were sufficiently rested to carry all our things safely to Leh. Our Ladakis informed us that this man's predecessor in office had on one occasion gone to Leh, where he was promptly put in jail by the Wazir for having defrauded some Ladakis who had been trading in Tibet. The Deva, unfortunately, let out that he had to visit Leh on important business in the spring; that was too good an opportunity to be missed, so our men went for him on every occasion. Jail for life was the least he could hope for the instant he entered Ladak if these sahibs lost one rupee's worth of property. The threats were quite enough, and we had hardly started before they brought yak and were loading up our abandoned things.

The weather had turned very cold, and our clothes were tattered and torn. My nephew, who had worn out his nether garments, found,



like O'Brian Lynn, the hairy side of a sheepskin distinctly comforting. If we either of us forgot to take the bread to bed, we found a frozen loaf made a poor breakfast. The difficulty of dressing in the morning, with the thermometer 6°, 8°, and 10° below zero in the tent, was overcome by not undressing over-night. Wherever our breath touched the sheet was ice in the morning; and on one occasion Mr. Fletcher found that before he could lift his head he had to loosen his hair from the pillow, to which it was frozen fast. In some of the rapid mountain-streams we noticed that the water froze from the bottom. I understand the same phenomenon is sometimes seen in the Thames at Oxford.

To avoid trampling needlessly on the feelings of the people, we did not enter the town of Rudok; and the Deva's face, which had had a very anxious expression till I turned away from the town, beamed with satisfaction. Rudok is very picturesquely situated, its site covering a steep hill, which stands isolated on a plain. On the top is a large palace—something similar to that at Leh, and several monasteries painted red. All the houses, which were in tiers, had once been whitewashed, but the colours had toned down, and, with the remains of an old wall round the town, the whole effect was extremely good. At the foot of the hill, about a mile away, there is another monastery. Some Ladakis trading at Rudok came out to meet us, and our men had a long talk with them. Afterwards I asked the nicest of our Ladakis whether he had good news of his wife. His answer was, "I never thought of asking." This after a year's absence! We passed some fine Mani stones, some of them very artistically carved. I annexed one, but generally when I stopped some Tibetans would stop too, so I never got a really fine one. After leaving Khotan, we found that somebody had palmed off upon us a two-year-old donkey; we tried to exchange it several times in part payment for other donkeys, but, not being able to get rid of it, we decided that it must just carry its load as long as it could. To the astonishment of everybody, it proved to be the best donkey we had; never sick or sorry, and always fat, he eventually became a great favourite. On nearing the Ladak frontier, he and another were the sole survivors of the donkeys; but, to our great regret, the intense cold finished him when close to the journey's end.

On October 27th we entered Ladak, at the village of Shushal, at which point, having completed my survey of 1700 miles from Cherenchen, I put by my instruments, not without, however, a lingering regret, for, in spite of the cold, that kind of work has a great fascination for me. No names are entered on the map that have not been obtained from at least two independent sources, and the men were made to repeat the names over and over again, till we got their pronunciation right. We passed along the south shores of the Pangong lakes, whose clear waters reflected the beautiful colouring of the surrounding hills, which

showed distinctly water-marks high above the present level of the lakes.

We had a fine day for crossing the Chang La, and the snow there had been trodden solid by flocks of sheep carrying grain to Rudok. At night their loads are built up like a wall, to protect the flock from the wind, and from the walls of sacks there are ropes fastened in parallel lines, to which the sheep are tied at night, so that they can be conveniently loaded in the morning. The salt or grain is packed in two bags joined together on the top, which is placed across the sheep's back and sinks into its fleece. A rope is placed under the sheep's tail and another across its chest. The load seems to ride perfectly well, and never shifts. Two or three men will look after as many hundred sheep, each carrying 20 or 30 pounds.

Passing the monasteries of Chimrai and Hemis, we arrived at Leh, in rags and tatters, on November 2, finding quite a genial climate—a tremendous change from what we had been having. From April 26 to October 16 we had never descended lower than 15,000 feet, and for four weeks of that time we had been camped over 17,000 feet. Finding the turns on the Kashmir road were too sharp for my wife's mule litter, we took it to pieces and made a much lighter and shorter one, in which she was carried by coolies the rest of the journey. We just got over the Zoji La in time. Two days later heavy snow fell. We reached Srinagar the middle of November, where at last we obtained the medical advice which our poor invalid needed so sorely. Out of all the animals that left Cherochen, including those we purchased at Lhasa, 160 or 170 in all, only two ponies and six mules reached Srinagar; more just struggled in to Leh, but, as they were incapable of going further, we gave them to our men as backshish.

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Before the reading of the paper, the PRESIDENT said: I am sure all present are delighted to welcome home Mr. Littledale, who has returned from a most adventurous expedition, having traversed Tibet from north to south, and made a very important discovery of new country; and I am sure we all feel deep sympathy with him and Mrs. Littledale in that she has been attacked by a severe illness, no doubt partly brought on by the hardships of the journey and the rigorous climate, but I trust she will, with care, soon recover her usual health again. This is the third time we have welcomed Mr. Littledale on his return from important exploring expeditions in Central Asia. The first time was in 1891, when Mr. and Mrs. Littledale returned from their journey across the Pamirs; the next was in 1894, which will be fresh in most of our memories, when he gave us a narrative of his very remarkable journey across Central Asia. Now we are about to listen to an account of the severe work he performed in accomplishing a very important geographical achievement, traversing for the first time the lofty plateau of Northern Tibet. I will now call upon Mr. Littledale to read his paper.

After the reading of the paper, the following discussion took place:—

The PRESIDENT: I am sure the meeting will be struck by the extraordinary resolution shown by Mr. Littledale in performing so remarkable a journey. A



great number of interesting points have been raised in the paper. To allude to one, I may first of all mention the flora, which, from Mr. Littledale's account, would appear to exist not at all, for he has only mentioned the *chi* grass and fuel called *bortza*, which may or may not be a plant. But, fortunately, we have present this evening Mr. Thiselton-Dyer, who has, I believe, examined the collection of plants brought back, and I trust he will give us some account of the flora of this region, for I think that the flora of these very elevated Alpine regions is always extremely interesting.

Mr. THISKLTON-DYER said that it was a happy circumstance that Mr. Littledale had been able to save his parcel of dried plants from the shipwreck which befell the rest of his collections. Its examination, which is not yet wholly completed, proved extremely interesting. It contained between sixty and seventy species, of which probably ten are new to science. "They were nearly all found in the Goring-Tangu valley (about 16,000 feet) on the south side of the high range of mountains which lie between the Tengri-Nor and Lhasa." The precise position was lat. 30° 12' N., and long. 90° 25' E.

One of the most striking features of the collection is the large preponderance of European genera; one might, in fact, say of British, because the large majority are represented in Britain. Out of between forty and fifty genera, there are only half a dozen of which this is not the case. Five species, *Aconitum Napellus*, *Potentilla fruticosa*, *Myriophyllum verticillatum*, *Taraxacum palustre*, and *Polygonum viviparum*, are actually found in this country. The first is perhaps an introduced plant; the *Myriophyllum* is an aquatic, the distribution of which is usually wide; but the two last are characteristic mountain forms with us. And in *Potentilla fruticosa* we have the most striking link between the two floras, as, though a rare plant, it is undoubtedly native in the north of England and the west of Ireland.

The flora of Western Tibet has long been tolerably well known. Eastern Tibet, on the other hand, was stated by Sir Joseph Hooker in 1855 to be "quite unknown botanically." Since this time our knowledge of the northern belt is the result of the journeys of Prjevalsky and Potanin, of Captain Bower and of Mr. Rockhill. The publication of the collections of the two former travellers was interrupted by the lamented death of Maximowicz. Those of the two latter were worked out at Kew, and the results are published in the *Journ. Linn. Soc.* (vol. xxx., pp. 131-140). Of the flora of the country between the neighbourhood of the Tengri Nor and Sikkim our knowledge is still extremely limited, and is much enlarged by Mr. Littledale's work. Sir Joseph Hooker, in two days' journey, only succeeded in collecting some fifteen to twenty species. In 1882 the Royal Botanic Garden, Calcutta, obtained some plants through a native collector, Ngyen Gyatsho, who accompanied Sarat Chandra Das in his journey to Lhasa; the collector did not, however, get further east than Gyatse Jong. In 1890 Prince Henri d'Orleans, like Mr. Littledale, attempted to reach Lhasa from the north, but apparently collected no plants in this part of his journey.

The conditions under which the Tibetan flora exists are perhaps unique. Long ago General Strachey expressed his conviction that flowering plants existed up to 19,000 feet (*J.R.G.S.*, vol. xxi. p. 77). But 18,000 feet appears to have been the highest observed level till the receipt of the collections of Surgeon-Captain Thorold, who accompanied Captain Bower. The conditions under which vegetation can exist in such circumstances are of course extreme. It is hardly necessary to say that there are no trees and no shrubs, nor any plants above a foot high. Very few indeed are above 3 inches out of the ground. General Strachey estimated that in the part of Western Tibet which he visited, "not one-twentieth part of the surface was covered with vegetation" (*Journ. Linn. Soc.*, vol. xxx. p. 101). A very large

proportion of the plants are herbaceous perennials, with long tap-roots, a rosette of leaves lying on the ground, from the centre of which springs the dwarf inflorescence.

The flora as a whole belongs to the Arctic-alpine division of the great northern region. But, as usual, this contains a purely endemic element, and also one related to the neighbouring area to the south, from which it has been perhaps recruited. Of the characteristically Tibetan plants obtained by Mr. Littledale, some had been previously obtained by Prjevalsky, Thorold, and Rockhill. Of the species not exclusively Tibetan, some extend to the Himalayas and the mountains of Western China. Of the typical Arctic-alpine flora, two species may be singled out as representative. *Lychnis apetalá* extends to Spitzbergen, and there is a very interesting form of the well-known Edelweiss, *Leontopodium alpinum*, which was also collected by Mr. Rockhill. The total absence of Gentians in Mr. Littledale's collection is remarkable. It is interesting to note that the single fern collected, *Polypodium hastatum*, was previously only known from Eastern Asia (China, Japan, and Corea). Among the new species is a striking grass. Of two fungi in the collection, one is new.

**THE PRESIDENT:** I think there are very few countries near the borders of British India with which Colonel Woodthorpe is not acquainted. I know he has been nibbling round Tibet for many years, on both sides; and as there are very few people better acquainted with the country beyond the Indian frontier, I hope he will address us.

**COLONEL R. G. WOODTHORPE:** Rudyard Kipling, in the course of a distinguished literary career, said a few true things, but never a truer than that sentiment which he puts into the mouth of Tommy Atkins, when he says, "If you've 'eard the East a-calling, you won't never 'eed naught else." There is a fascination about the East, and such travelling as Mr. Littledale has told us of to-night fascinates all those who have ever attempted it. I have been exceedingly pleased to listen to Mr. Littledale; I have felt that what I have accomplished has been as nothing compared to his gigantic performances. But though I have done little, I have done enough to appreciate the difficulties and dangers through which he and Mrs. Littledale have passed so bravely and nobly. His anxieties about the apparently impassable mountain ranges ahead, anxieties about food and scarcity of water, and his joy on surmounting these difficulties of them, have found a responsive echo in my breast. He has borne testimony to the good conduct of the sepoy with him. It is an experience which has also been my own. In all these little expeditions I have found the native soldier, whether Pathan, Sikh, or Gurkha, always the truest and most faithful friend the explorer could have, whether on the north-east frontier, or in Afghanistan or Chitral. I have also found my sepoy keen for a fight. Once in Afghanistan I was with a small force which was sent up to turn some Afghans from a mountain-crest which commanded the camp. I happened to have got separated from the rest of the force, with one or two Gurkhas and a Havildar. There were some Afghans in a small *sungar* just ahead, and, as it was more dangerous to remain out in the open than to get in the shelter of the *sungar*, we rushed it. The Afghans, not knowing how small a party we were, bolted down the hill. I wanted to stop till the others came up, but the Havildar said, "I must go out and fight them." I said, "If you do, probably you will get killed." He said, "Never mind; it is absolutely necessary to cut up some of these scoundrels with my kukri." You never need urge these men on; they require, rather, to be kept back. They make it sometimes difficult for an explorer, as they are rather too anxious to fight.

Mr. Littledale told us that the Tibetans thought the telescope would enable one to see through opaque substances. That is a mistake common enough among



all wild or semi-civilized tribes. Last year, on the Mekong, I was asked by a Buddhist priest if a telescope would not enable us to see through a man's clothes to the body. He had a proleptic vision of Prof. Röntgen's discovery. I noticed Mr. Littledale observed how difficult it is to pay money to the men who really earn it. This was our experience. I remember this was the case especially in Chitral, when I made an expedition with Sir William Lockhart. Many of Mr. Littledale's pictures have recalled my experiences there, which were most happy, in company with that most generous and gallant chief and charming companion. There each morning the coolies were brought up to us to carry our luggage, but at night we were not allowed to pay them; we had to pay the head-men, who came up for the money, which never found its way into the coolies' pockets.

Sir HENRY HOWORTH : One of the facts we all ought to know is, that the President, whose modesty prevented him from telling it, has edited a very interesting book about Tibet, written by a famous traveller, Bogle, one of the few men who have reached Lhasa. This particular district is the most interesting enigma in all Asia. I have written fat books about the history of Tibet, and the tribes from the Volga to the Yellow Sea, who, whether they are remote or near, whether Mongolian or Southern Turkey tribes, derive their teaching from Lhasa. I feel that our officials put great bars in the way of Indian civilians making their way across the Himalayas, and since the days of Hodgson, who collected more real information about Tibet than any other civilian, we have never had the opportunity of entering Tibet from the south. It has always been from the north that the attempts have been made, by Rockhill and others, culminating in the journey of our friend. Let me commend to you an older authority, who knew the district well and who fought on its borders frequently, named the prince Haidar. This wonderful journey was made, and is described in an extraordinary book published by a great traveller, Mr. Ney Elias, months ago. It was written by a kinsman of the man who founded the Empire of India, and is entitled the 'Tarikhi Rashidi.' It is a disappointment to some of us that Mr. Littledale was only able to get within 43 miles of the Mekka of this Central Asiatic world; although we have accounts from older days, it would be interesting to know what life goes on there now. It is a great puzzle to know how these wild tribes and the Mongols from Lake Baikal to the Volga can understand and become attached to such an intricate and elaborate system of theology as that hidden behind the lama medium—a sort of Blavatskism gone mad. We do hope very much indeed that Mr. Littledale will make another venture, whether he takes his wife or not on such a dangerous journey. I think a man who could get within 43 miles of Lhasa would probably succeed next time. I am sure he would bring back a great many valuable lessons for us. We have hardly any notion now of what goes on there, beyond one or two accounts derived from Lamas who have found their way to Bhutan. We want some man with the power of picturesque description and also a great hunter, for Mr. Littledale was the first man to bring the wild camel to England, and those who have not seen it should go to the Natural History Museum, and see it there stuffed. You will pardon my having intervened this discussion, but I have taken much interest in this journey and the history of the country Mr. Littledale has traversed. It has been a delightful revelation to myself, and I could not help recalling to your memory that your President, with all his versatile gifts, did a wonderful thing for some of us when he edited that wonderful account of Lhasa I mentioned.

Mr. DELMAR MORGAN : I should like to pay my tribute of respect to the memory of General Walker, whose loss Mr. Markham has referred to this evening. Having been personally known to General Walker for many years, and associated with him.

in some of his geographical work, I have always been impressed with his great knowledge and scientific attainments. I feel sure that the whole Society must feel his loss very deeply.

The paper we have just heard contains very many points of interest. We cannot but feel interested in the cordial reception which Mr. Littledale mentions as having been given by the Russian authorities. I am told that one of those who assisted and forwarded his journey in every way was that well-known traveller Colonel Grombchevsky, and it speaks very highly for him that, notwithstanding the disappointment he felt when exploring some years ago the valley of the Upper Yarkand, near our frontier, when he asked, but did not obtain, permission to enter British territory, he should have welcomed our traveller. Another point of view, the commercial, after what Mr. Littledale has told us, is of importance, with reference to the great trade in wool, and I think it would be a good thing were Englishmen to keep an eye on that trade. Yarkand has been for many centuries known as a trading centre, and it is from there, if I am not mistaken, that the wool from which the celebrated Kashmir shawls are made comes. From the geographical point of view, Mr. Littledale's paper is of great importance. His route—or hardly a route; it is more a track, made for himself across the most inaccessible part of Northern Tibet—lies a little to the west of the route of M. Bonvalot and Prince Henri of Orleans, and a little to the east of the journey made by M. Pevtsoff, who succeeded Prjevalsky in 1890, and who, starting from the oasis of Nia, crossed that very high range, which is known locally as Akka-Tagh, and marked on some maps 'Prjevalsky' range.

The PRESIDENT: I was anxious to discuss several geographical points, suggested by Mr. Littledale's paper, but I fear it is getting late. I will, however, say a few words respecting the chain of mountains which Mr. Littledale actually crossed, and which he mentions as throwing up peaks 20,000 feet high. I am sorry to say that on the map we have to-night that chain of mountains does not appear, which only shows how important it is that further exploration should be conducted in Tibet. I have called that range the northern range of the Himalayan system. I remember Mr. Trelawney Saunders was anxious to name it, and he has done so on a map he drew for me, the Gangri range, after the knot of peaks which connects it with the Korakoram; but Brian Hodgson has called it the Nyenchen-tang-la, as does also Mr. Littledale himself. These mountains are of the greatest possible importance and interest; they have only been crossed by native explorers and by Mr. Littledale opposite the Tengri-Nor, and in the whole length from Tengri-Nor to the Mariam La pass no one has crossed them, so far as we know. One of the last suggestions by General Walker was that a rough survey should be undertaken of these northern parts of the Himalayan system, and I believe nothing in Asia is of greater geographical importance than the exploration of this range of mountains, which I trust geographers will agree to give some name to, and next time we have a map of Tibet in this room I shall take care that they are portrayed upon it.

We now only have to thank Mr. Littledale for his most interesting paper, giving us an account of a journey which has seldom been equalled for its extraordinary hardships and the resolution with which they have been overcome. We have heard from Mr. Thiselton-Dyer that very important botanical results have come from Mr. Littledale's collection of plants, and I must express my own admiration for the splendid scientific work he has done for geography—for the way in which he got up every morning, without, I believe, missing a single one, to take observations regularly, from the time he started until he reached Leh, and his dead reckoning shows that he did his work with most remarkable accuracy. I believe it was only a mile or half a mile out in 850 miles on comparing his dead reckoning with a position



fixed by observation; 200 miles further west the dead reckoning agreed within half a mile of the longitude obtained by an occultation observed by Mr. Littledale, and compiled by Mr. Coles; and at Shushal, near the Ladak frontier, where the survey terminated, there was, after a traverse of 1700 miles, only a difference of  $1\frac{1}{4}$  mile between Mr. Littledale's position and that given by the Trigonometrical Survey of India. We not only have to thank Mr. Littledale for an extremely interesting evening, but for the valuable scientific work done for geography, and I am sure you will all join in a cordial vote of thanks.

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NOTE ON MR. ST. GEORGE LITTEDALE'S MAP.—The instruments used by Mr. St. G. Littledale for making his route survey and fixing positions by astronomical observations were—a 6-inch sextant, a 3-inch theodolite, a telescope by Ross, hypsometric apparatus, three aneroids, a clinometer, and a prismatic compass. All bearings were taken with the prismatic compass on a tripod, and the distances were arrived at by pacing the caravan with a stop-watch. Forty-three observations of north and south stars for latitude have been employed for correcting positions, and the longitude of station 107 has been fixed by an occultation of the star  $\gamma$  Capricorni by the moon. The accuracy of the traverse survey was confirmed in a remarkable degree by the astronomical observations.

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## THE FIRST CROSSING OF THE SOUTHERN ALPS OF NEW ZEALAND.\*

By EDWARD A. FITZ GERALD.

THE South Island of New Zealand, as you all know, is long and narrow, some 500 miles in length by about 100 to 150 miles in width. It lies in a north-easterly direction at about the same distance from the equator as Italy or the Black Sea, so that the mountain ranges might be likened to the Caucasus in respect of latitude. The climate is, however, much milder; snow very seldom falls in Christchurch or Wellington even during the winter months. The whole of my work was confined between the districts of Canterbury and Westland, and the principal object of my visit was, if possible, to discover some feasible tourist route over which horses could be taken from the arid plains of the Mackenzie country to the west coast, so marvellously beautiful with its nearly tropical vegetation and its great glaciers flowing down almost to the sea. There would also be a practical use for such a road, as it would open up to the gold-diggers an easy path whereby they could get their supplies, and at the same time send their produce to the great towns on the east coast. Up to the present day they have had to rely on pack-horses led along the beach, nearly 100 miles from Hokitika—a toilsome journey even under favourable circumstances, but after a great rain, when the rivers are in flood, there being no bridges, one is obliged to stop and wait perhaps a fortnight for fine weather. As the rainfall of the west coast varies from 120 to 150 inches a year, it can be easily understood how

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\* Paper read at the Royal Geographical Society, January 27, 1896. Map, p. 576.