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REPORT

ON AN

EXPLORATION

ON THE

NORTH EAST FRONTIER

1913

BY

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During the course of the operations of the Mishmi Exploration Survey Party of 1912-13, a colony of Khamba Tibetans was discovered at Mipi in the valley of the Matun, an important tributary of the Tangon (Dihang) R. These Khambas who proved friendly, volunteered much interesting information regarding their own country, and offered to provide guides to point out the road to Pemakö and Po me. It was felt that a unique opportunity was thus offered for a small party to penetrate the unknown reaches of the 'Tsangpo in the neighbourhood of the great bend, and thence possibly to follow the hitherto unexplored frontier to Tawang.

Narrative Report.

The sanction of the Foreign Department having been duly obtained, on the conclusion of the Mishmi Survey operations Captain Bailey and myself with ten picked coolies returned to Mipi, where, thanks to the kind offices of Major C. Bliss, C.I.E., O. C. Troops, and of Captain G. A. Nevill, Political Officer to the column, we had been able to store a two months supply of rations and a complete outfit of warm clothing for our party. Having spent the first half of May in laying out depots of rations as far in advance along the road as the now rapidly retreating snow-line admitted, we finally quitted Mipi with our ten coolies and three local guides in pouring rain on May 16th. The going was extremely bad, as the incessant rain and the rapid melting of the snow on the hills had combined to render the whole country a morass. Our marches were therefore short; we had moreover to make several halts while our coolies returned to fetch up the reserves of rations, so that it was not until 24th May that we reached the *Latsa* or hut at the foot of the Yong gyap La. The next day snow fell heavily all day, and our guides declared that it would be madness to attempt the pass. On the 26th, the weather having slightly improved, we started early, ourselves carrying guns, planetable &c. so as to have every possible cooly available for carrying rations. Owing to a thick mist, our guides had great difficulty in finding the pass, which is reached by a toilsome ascent of some 1500 feet through deep snow, and it was dusk when we reached the *Latsa* on the north side of the pass. Here we had to halt for a day, as four of our coolies were totally incapacitated by snow-blindness. There had been no apparent glare on the snow, owing to the dense mist all day, and I do not think the idea of there being any possibility of snow-blindness occurred to any of us. However, we received a lesson thus early of which we were not slow to profit.

Since leaving Mipi not a single triangulated peak had been visible through the cloud and mist, and I began to realise the impossibility of carrying on any system of connected triangulation, or indeed of executing anything more rigorous than a traverse by "Time and compass".

One march from the *Latsa* camp brought us to Yong gyap Da, where the streams from the Yong gyap and Pungpung passes unite. The combined waters of these two streams reach the Dihang under the name of the Shūmo Chu near Tambu. There is, however, no road down the Shūmo valley, and in order to reach the Dihang it is necessary to cross the Pungpung La and follow the Chimdro stream to its confluence near Kāpu. Just above Yong gyap Da there is a shallow lake some 2 miles long by $\frac{1}{2}$ mile wide formed by the damming of the Kirung Chu.

On 30th May we crossed the Pungpung La, which, like the Yong gyap La, was under 20 feet of snow; and next day reached the village of Gudam in the Chimdro valley. A halt of 2 days enabled me to traverse up the valley to the furthest village of Shingki, whence roads diverge to Rima *viā* the Kangri Karpo La and to Po me *viā* the Chimdro or Dashing La. In the meantime Captain Bailey had succeeded in inducing the local dzongpön to provide us with coolies and supplies for our onward journey. This was a most important achievement, since our title to supplies and transport thus once admitted served as a precedent for the whole of our journey.

On 5th June we reached Kāpu, where we heard that the Abor column were in the neighbourhood of Kopu. From here I sent a letter by native runner to Captain Trenchard, asking for the co-ordinates of any triangulated points he might have fixed. While waiting for a reply, we traversed leisurely down the Dihang valley, halting at Geling, Makti (where a brief interval of fine weather enabled me to observe N. and S. stars for latitude) and Meto, whence we ascended the hill to Rinchenpung. The moist damp heat of the Dihang valley at this time of year is most trying, and combined with the perfect plague of mosquitoes, "*damdims*", leeches and gadflies would indeed have been almost unbearable were it not for the very excellent quality of the "*maria*" beer which is brewed here in large quantities. After vainly waiting three days in Rinchenpung for a reply to my letter, we retraced our steps to Kāpu, and thence continued up the valley *via* Druk, Pangshing and Tsangrang to Lāgung, where we found the "*nyerpa*" or minister of Po me, Namgye by name, waiting for us. Namgye was returning from a cold-weather tour in Pemakö, and had been in correspondence with Mr. Dundas who had informed him that the Abor Survey party would not penetrate Pemakö. He was therefore inclined to view us with considerable suspicion, regarding our arrival as a breach of faith. Finally it was settled that we were to abandon our intention of following up the valley of the Tsangpo, and were to accompany him over the Sü La to Showa, where a council would be held as to our disposal. We reached Showa on June 25th, and were kept more or less prisoners in the travellers' house for three days during which time Captain Bailey spent many hours pressing our case before the council, who affected to believe we represented a flank attack on the part of the Chinese who had been expelled from the country 18 months previously. Matters were eventually settled satisfactorily, and we were given a mounted guide and promises of supplies and transport to take us to the Tibetan border, though, at the very last moment, their suspicions were again aroused, and the negotiations imperilled, at the sight of the Chinese writing on my tablet of Indian ink!

In the Po me valley one first began to notice a change in the type of scenery from that of the Abor and Mishmi hills. The dense tropical jungle of the lower Dihang valley gives way to tall pines and cypresses growing from a carpet of lush grass and vivid coloured wild flowers, while the substantial

stone-built houses, terraced fields, and avenues of peach, walnut, and pollard willow denoted a higher type of civilisation than anything we had hitherto met. Showa, the capital of the country is a straggling village of perhaps 40 houses. There are the remains of a large palace and monastery which together with the bridge over the Po Tsangpo were destroyed by the Chinese in 1911. A fine new cantilever bridge of 50 yards span and a width of roadway of 10 feet has just been completed.

We were much struck by the immense volume of water carried by the Po Tsangpo, which is here some 80 yards in average width, deep, and with a very fierce current. We were very anxious to explore this river to its sources, the Nāgong Chu and the Po tö Chu, but this the Pobas flatly refused to countenance.

Up to this point I had endeavoured as far as possible to conceal the fact that I was making a map, for which reason, and also owing to the incessant rain, I had avoided using the planetable, contenting myself with a rough prismatic compass traverse which was plotted in the evenings. Having now made friends with the Poba "*Nyerpa*", I explained the matter to him, showing him the whole of my instruments &c., to which he made no objection. He remarked indeed that once many years previously a Chinaman had come from the west and had attempted to march through the country counting his paces and writing the numbers down in a book, but that in accordance with the custom of the time he had been bundled out of the country by the way he came, with the intimation that such things were not done in Po me. This may have been the Chinese monk referred to on a subsequent page who decamped after selling Kinthup into captivity.

I may here remark that the policy then initiated of absolute openness in regard to the object of our journey and the making of the map proved completely successful. No serious objection was ever made to our operations, and we had the priceless advantage of being able to work openly and with an easy conscience.

Having received replies from Captain Trenchard and Mr. Dundas, we left Showa on 28th June, and in two days reached the villages of Tang tö and Tang me where our downward journey was stopped by a broken bridge over the Yigrong, necessitating a two days excursion up the latter river to a ferry on the Yigrong Tso. The story of the formation of this lake, as told us by the villagers of Dre is worth recording at length. Some 13 years ago the Trälung Chu, a small tributary of the Yigrong, ceased to flow for 3 days, while rumblings were heard up the valley. Suddenly at 2 or 3 o'clock in the afternoon an immense mass of mud and stones came down the valley completely engulfing two villages at the mouth of the stream as well as two more on the opposite bank of the Yigrong, and forming a dam across the river some 350 feet high and $1\frac{1}{4}$ miles in width. The material was said to be so hot as to blister the soles of a man walking on it. For a month and three days the Yigrong remained completely dammed while a huge lake gradually formed; finally the dam was topped and the pent up water released to form a flood which was noticed in Assam as carrying the corpses of strange men, and pine trees of an unknown variety. Fourteen miles downstream from the lake, we were shown the site of an old village, 170 feet above the present level of the river, which was washed away in this flood. The lake to-day is nearly 10 miles long and $\frac{3}{4}$ mile in average width, and though the Yigrong is still cutting away the dam, it is probable that the lake will have filled with silt before the original

level of the river is reached. Many villages and fields were submerged by the rising waters of the lake, the owners of which, wandering southwards in search of new homes, eventually founded the colony of Mipi in the Mishmi Hills.

The hills on either side of the Yigrong Tso contain iron-ore. A vein at the S. E. corner of the lake is worked by means of a horizontal adit extending some 600 feet into the hillside. The ore is smelted on the spot and made into swords which are traded in Kongbo and Pemakö.

On July 9th we reached Trulung. Here the road down the valley to Pemakö crosses to the left bank of the Po Tsangpo, but the single-rope bridge which spans the river had been carried away a few days prior to our arrival, and we were consequently unable to carry out our programme of making good the section of the river down to where we had left it at Lägung. It may be here remarked that the bridges of Pemakö and lower Po me, which are all of the single-rope "Mishmi" type, are usually carried away when the rivers rise in June, and are not renewed until the following cold weather, so that travelling is only possible during the winter and spring.

From Trulung we followed the Tibet road up the Rong Chu *viâ* Tongkyuk dzong and the Nyima La to Pe, which we reached on 13th July. We were informed that two officers* and some Gurkhas had arrived here 7 days previously *viâ* the Doshong La, and had returned after a halt of one day. We found, however, the dzongpön of Tsela and other officials, who had hurried to Pe on hearing of the arrival of strangers, and from them we were able to obtain passports which helped us materially for the remainder of our journey in Tibet. Having collected a supply of rations we followed the right bank of the Tsangpo to Gyāla. This is the last Tibetan village of any size, and is the headquarters of a *Depa* or sub-official, subordinate to the dzongpön of Tsela. Across the river on a small side *nala* are the falls of Shingche Chögye, pictures of which by Tibetan artists have been seen and described by Colonel Waddell†. The limestone rocks which form the bed of the stream have been hollowed out into curious caverns by the water which falls in 3 successive cascades of some 50 feet each into Tsangpo below. A demon who gives his name to the falls is popularly supposed to be chained behind the falling waters, but is only visible at times of very low water. Below Gyāla the valley narrows and the Tsangpo gradually changes from a placid river into a roaring torrent. Pemaköchung which we reached on 21st July is the last Tibetan habitation. It consists merely of a humble monastery and one other occupied house. A mile or so above the *Gompa*, the Tsangpo falls over a cliff some 30 feet in height, and from here onwards can only be described as a seething boiling mass of water. We were told that there was absolutely no road down the valley to Pemakö; we determined therefore to cut a road for ourselves as long as our rations lasted, and succeeded in reaching a prominent spur just west of the Churung Chu, from which I was able to trace the general course of the Tsangpo for the next 30 or 40 miles of its downward course, as well as to fix the general position of the high snowy range round which the Po Tsangpo bends N.W. of the Sü La. Returning to Pemaköchung, we found that in our absence a party of Mönbas from Pemakö, escorting a holy Lama on a pilgrimage to Lhāsa, had cut themselves a road following the water's edge. This was said

* Captains Trenchard and Pemberton, R. E.

† *Tibet and its mysteries*, by Lt.-Colonel L. A. Waddell, I. M. S.: 3rd edition, pp. 437-439

to be the first time there had been any communication for 20 years. Our rations were unfortunately almost exhausted, so I returned to Gyāla, while Captain Bailey with a single cooly followed some returning Mönbas and succeeded in getting a few miles below the Churung confluence when the Mönbas deserted him at an almost impossible precipice, and he was compelled to return after taking a hypsometer reading at the lowest point reached. Captain Bailey has questioned numerous natives regarding the unvisited portion of the river, whose length we estimate at 45 miles. They are unanimous in saying that it continues in the same seething boiling torrent, but that there are no more actual falls. The following table exhibits the heights and gradients in this portion of the river:—

(A) Places on the Tsangpo	Height	Fall	Distances in Miles by road	Gradient in Feet per Mile	Remarks.
Nyuksang	<i>feet</i> 8732	...	...	...
Pemaköchung (top of falls) ...	8381	351	14½	24	
Sanglung confluence	8089	292	3	97	
1½ miles below confluence ...	8010	79	1½	53	
2 miles below Churung confluence ...	7477	533	11	49	
Gompo ne (assumed)	5700	1777	20*	89	Confluence of Po Chu and Tsangpo, not surveyed or visited.
Chimdros confluence	2606	3094	75*	41	
(B) Places on the Po Chu.					
Showa (river level)	8312	...	...	...
Tangme do.	6751	1561	31	50	
Trulung do.	6424	327	10½	31	
Gompo ne (assumed)	5700	724	25*	29	
Yigrong Tso	7301	...	...	...
Tang me	6751	550	17½	31	

* Assumed distances. Of the 75 miles between Gompo ne and the Chimdros confluence, 45 miles were mapped and the remaining 30 miles filled in from native information. Diplomatic reasons prevented our obtaining a hypsometric observation of the river-level at Lagung where we quitted the Tsangpo valley.

In this table a height of 5700 feet has been taken for the junction of the Po Tsangpo or Po Chu with the Tsangpo at Gompo ne on the assumption that the gradient of approximately 30 feet per mile, deduced for the former river and for the Yigrong, continues as far as the confluence.

Fortunately, while we were at Pemaköchung a spell of bright sunny weather occurred, which enabled me to survey this portion of the valley by interpolation from Namcha Barwa and the neighbouring triangulated peaks, and also to fix the prominent group of snows on the opposite bank of the river which culminate in the peak of Gyāla Peri.

At Gyāla we crossed the river by a single-rope bridge and returned by the north bank to Pe. From here to Tsetang, which we reached on 29th August, the road calls for little comment. With the exception of the two large bends in the river which the road avoids by short cuts over spurs by the Kongbo Nga La and the Putrang La respectively, there is a good riding road for the whole distance on both banks. We followed the northern bank as far as Tü, in the hope of seeing the triangulated peaks of the Himalayan watershed to the south; this was, however, not possible owing to clouds. For some 80 miles above Pe, the Tsangpo flows in a broad placid stream with numerous sandy islands and spits. Further up-stream the valley again narrows, and from Orong and Gācha to within a few miles of Tsetang the river is broken and rapid. The Giamda Chu, a large river flowing in a wide alluvial valley, joins the Tsangpo at Tsela, and is noteworthy as being the only important exception to the remarkable rule* that the feeders of the latter river flow in a direction contrary to the main stream. Tsetang is a town of 200 or 300 houses. We found here a colony of Kashmiri traders from whom we were able to buy a fresh outfit of boots and clothes for our coolies, as well as a few little luxuries such as brick tea, soap, and sugar for ourselves. From Tsetang we followed the road of Nain Singh and others up the wide fertile Yarlung valley, and crossed the Yartö Tra La to Chumda Kyang. We were now in the typical *chang thang* or elevated plateau country of Tibet, far above the level of trees or fuel, and where no crop will ripen save a little stunted barley. Villages are here few and squalid, and the undulating stony plains are void of all detail except where a few black yak-hair tents and scattered flocks betoken the presence of a “*drok*” or grazing camp.

Continuing eastwards, we reached Kyekye on 4th September *viâ* the Pu La (a pass on the boundary between the provinces of Ü and Takpo, and also the watershed between the Tsangpo and the Subansiri) where we saw numbers of gazelle and *kyang*. On awaking the following morning, we found that the box containing our store of money had been stolen from our tent during the night, and that three of our own coolies were missing. Though we sent letters to all the neighbouring dzongpöns, no trace of these three men was ever discovered. We also wrote to the head of the Kashmiri community in Tsetang, Qazi 'Ata Ulla, informing him of our plight. This man very obligingly agreed to cash us a cheque on Calcutta, himself travelling to Lhöntse dzong with the money. I am glad to have this opportunity of acknowledging the valuable service he rendered us.

Meanwhile we continued our journey down the Char Chu nearly to Sanga Chöling. Turning up a side valley 8 miles W. of this place and crossing the Kamba La, we found ourselves again in the Tsangpo drainage, at the head of the Trulung Chu. Following down the western and up the eastern branch of this river, we crossed the Kongmo La into the head of the Tsāri Chu, another branch of the Subansiri river. This valley, which we followed as far as Migyitün, is remarkable for its very heavy rainfall, which is reflected in the denseness of the jungle growth on the hillsides, and in which respect it differs widely from the other Tibetan headwaters of the Subansiri, namely the Char, Nye, and Loro or Chayul rivers, all of which down to the point at which they pierce the main Himalayan axis traverse dry arid valleys.

* *A sketch of the Geography and Geology of the Himalaya Mountains and Tibet* by Colonel S. G. Burrard, R.E., F.R.S. and H. H. Hayden, B.A., F.G.S., part III page 155.

The Tsāri valley contains the sacred shrine of Chikchar, and the entire district is considered so holy that not only is no shooting or killing of animals allowed, but from the Kongmo La downwards, the ground is not allowed to be broken by plough, or tilled in any way. Food is correspondingly expensive. The Buddhist religion forbids the taking of life in any form. The Tibetans, however, only apply this principle to wild animals, though they ordinarily made no objection to our shooting as many animals we wanted for food or for sport.

Below Migyitūn the road is only used by Lopas who come up to trade in salt in the cold weather. At the time of our visit, the bridges were carried away and the road impassable.

On the return journey Captain Bailey followed the route of the Tsāri pilgrimage starting from Chikchar, while I proceeded *viā* the Cha La direct to Sanga Chöling. Here I had a most hospitable reception, and halted a day to visit the large and well-appointed monastery. I then completed the survey of the remainder of the Char Chu down to the point where it enters the gorge of the Himalaya at Lung. The last inhabited Tibetan village is Drü, below which the scenery changes with startling abruptness. On rounding the bend in the valley at the deserted village of Raprang, the placid river suddenly becomes a foaming rapid with a fall of 300 feet a mile, while the bare Tibetan hillsides are succeeded in the course of a few miles by the dank leech-infested jungles of the Himalaya.

I returned to meet Captain Bailey at Charme, whence we crossed the Le La to Nyerong on the Nye Chu. Eight miles below Nyerong the Nye Chu unites with the Loro Chu to form the Chayul, which in turn joins the Char Chu at the Lung gorge, to form the main branch of the Subansiri river. We followed the Chayul down to the furthest Tibetan village of Drötang, below which there was said to be uninhabited country for 5 or 6 marches before the first Lopa village is reached. Lopas come up the valley in large numbers to trade when the road is open during the cold weather, but no Tibetan ever visits the Lopa country, so that it is not easy to obtain information from the Tibetan side. At the time of our visit the valley road was closed, but a large number of Lopas were coming over the Lha La to trade in the villages of Kap and Trön. The Lopas will not accept money, and the trading is all done by barter, madder dye being exchanged for salt. A curious custom prevails of adulterating the salt with large quantities of a kind of dry moss which grows on the Tibetan uplands, three parts of moss being mixed with one of salt before exchanging with the Lopas. We failed to ascertain the precise cause or origin of this custom. It is not apparently done merely with the object of cheating the Lopas, since the latter seem to be fully aware of the practice. One man informed us that were it not for the moss, the salt being hygroscopic would liquify and escape from the sacks in the damp climate of the Lopa country.

Returning to Chayul Dzong, we followed up the valley to Trashī Tongme Gompa. Some high snow peaks were visible to the S.E., one of which, Takpa Shiri, appeared to be identical with peak 21834 of the Miri Mission Survey of 1911-12, and although its direction was unfavourable, I used it to obtain a rough check on my longitude by the method of latitude and azimuth. Two streams, the Loro Karpo Chu and the Loro Nakpo Chu (white Loro and black Loro), here unite. We followed the latter, and on October 2nd crossed a high pass, the Pen La, into the head of the Seti Chu, in the drainage system of the

Manās. The Seti valley is uninhabited, and the river cuts through the Himalayan range in an impassable gorge. The road after rounding a spur crosses the main Himalayan axis by the Tulung La, and follows a steep narrow valley down to the curious villages of Nyuri and Dyuri which together form the remote little district of Mago, situated in the heart of the mountains. Immediately below Mago the river enters a gorge down which there is no communication, and the only other road is one over the Chera La. From the top of the Chera La two roads diverge, one going westwards to Tawang, and one which we followed, crossing the Tse La into a branch of the Dirang Chu, a tributary of the Bhoroli R. After passing the Pöshing La, the road follows a spur for 10 miles to the last Tibetan village of Lāgam. From our camp below the Pöshing La the plains of Assam beyond Diyu Mukh were clearly visible in the early morning, but clouds soon obscured the landscape.

We were now amongst Mönbas again, and although the heat of the low-lying Mönnyul valleys was somewhat enervating, yet the verdant hillsides and neatly cultivated fields formed a pleasant contrast to the barren landscapes of Tibet. *Marwa*, buckwheat, tobacco, chillies and maize appeared to be the chief crops. The two latter were being gathered as we passed, and the chillies spread out to dry on the roofs of the houses formed a pleasing dash of colour.

The Indian madder vine (*Rubia Cordifolia*) grows wild in this country and is exported in enormous quantities to Tibet.

Three marches from Lāgam brought us to Dirang dzong, where we were on Nain Singh's road, which we followed over the Se La to Tawang. The weather at this period was execrable and I was very glad to have Nain Singh's fixed position of Tawang from which to start my traverse afresh.

All this time we had been entirely subsisting on the 70 rupees or so which we had in our belts and pockets when our money was stolen in Kyekye six weeks previously, and although we had sent two more of our own servants to Lhöntse and Tsöna to receive the money from Qazi 'Ata Ulla, we had not been able to arrange any place for them to meet us. So, although we had now accomplished our mission, namely to explore the frontier from Pemakö to Tawang, we had to return once more to Tibet to pick up our servants and money.

Leaving Tawang on October 19th, we avoided Nain Singh's route over the Mila Katong La, and descended the valley of the Tawang Chu as far as the Nyamjang Chu. The latter is an important river 90 miles in length which rises in Tibet and cuts through the Himalayan range in latitude 28° 0' — 28° 5', but it has not been shown on any previous map. The villages are Mönba as far as Trino, at which point we left the valley and crossed the Pö La to Tsöna. Here we found our two servants waiting with the money. We were now (October 23rd) once more on the Tibetan *chang thang*, and the cold was intense, but we wished to complete the survey of the headwaters of the Loro Karpo and Nye rivers before returning, so having expended our money in *chubas** for our servants and blankets for ourselves, we set out on the road to Trashi Tongme. Captain Bailey proceeded *viá* the Lagor La to Lhöntse, thence making an excursion down the Nye Chu, while I halted a day at Loro tö to follow a herd of *ovis ammon*, and subsequently joined Captain Bailey, reaching Lhöntse *viá* the Gyandro La. Between Nye me and Nyerong the Nye

* Thick blanket coats.

flows through a narrow gorge, but the upper portion of the valley consists of a wide stony plain or "Pamir" upwards of a mile in width and containing numerous fields and scattered homesteads. At Ritang, which is the junction of the Sikung and Sömbü branches of the river, we were once more on Nain Singh's route as far as Trashigang where the latter branched off southwards to Tengsho.

On 31st October we crossed our last high pass, the Hor La, into the headwaters of the Nyamjang Chu. The gorge between the pass and Gyao is extremely narrow and steep, below this however the valley widens and the river flows peacefully in a wide shingly bed as far as Dongkar dzong where it again enters a gorge. Opposite the village of Rong the slates and shale of Tibet give way to Himalayan granite, and jungle and pine trees begin to appear on the hillsides. The Himalayan axis is passed between Rong and the extreme Tibetan village of Rang. At Trimo we were on our previous road, which we followed as far as the Nyamjang-Tawang Chu confluence. From here we crossed the Bhutanese frontier and on 9th November reached Trashigang where we found a devil-dance in progress, and were hospitably entertained by the Bhutanese dzongpön. The country between Trashigang and the plains of Assam is shown on Sheet No. 7 of the N. E. Trans-frontier Series, scale 8 miles to 1 inch. Owing to delays in collecting transport, much of this portion of the journey was accomplished by moonlight, so that surveying was impossible. Travelling *viâ* Dungsam (Dewāngiri) we reached Rangiya Junction E. B. S. Railway at 2 a. m. on 15th November after a journey estimated at 1680 miles.

The valley of the Po Tsangpo has not been visited by any previous explorer, and no one except Kintshup has previously traversed the district of Pemakö. Further westward, however, the country is better known.

The earliest record of travel in Takpo appears to be that of the Italian Friars who established the Capuchin Mission at Lhāsa in the year 1708. Of the four members who entered Tibet on this Mission, two proceeded direct to Lhāsa *viâ* Gyangtse and Pālti (Pete, on the shore of Yamdok Tso). The other two members of the party diverged eastwards, crossed the Yarlung valley, and eventually penetrated into the province of Takpo, east of Tsetang. Thence they appear to have travelled north-west *viâ* Samye and the Thib La to join their two brethren at Lhāsa. Ten years later, in 1718, we hear of a branch of the Mission being opened at Drong-Nge in Takpo, which is described as "near the borders of East Bhutan about 14 days journey to the S. E. of Lhāsa"*. This is probably the village of Trong Nge on the Tsangpo just north of Guru Namgye Dzong. The subsequent history of the Drong-Nge branch mission is obscure, but it probably terminated with the return of the Missionaries in 1735. The Capuchin Mission finally collapsed in 1745.

The only other European traveller in these parts is the Jesuit Ippolito Desideri who was commissioned to visit and report on the Capuchin settlement at Lhāsa. His sojourn in Tibet extended from 1716 to 1721, during which time he made numerous excursions to places south and south-east of Lhāsa, visiting Samye, Tsetang, and the Yarlung valley.

From the date of the final closing of the Capuchin Mission, no further additions were made to our knowledge of the S. E. corner of Tibet until the era of the Survey of India explorers, in the decade 1874-84.

* "The Exploration of Tibet: its history and particulars from 1623 to 1904" by Graham Sandberg, B.A., pp. 31-40.

The first explorer to penetrate this country was the late Nain Singh, C.I.E., then known as "The Pandit", who reached Lhāsa, on his second and last famous journey across Tibet, on 18th November 1874. Hence striking S.E., to Samye, he followed the Tsangpo to Tsetang. Thence proceeding up the Yarlung valley over the Yartō Tra La and Karkang La into the Sikung valley, which is drained by the Nye Chu, one of the sources of the Subansiri, he traversed the highly elevated plains of Tengsho and Tsōna (Chuna), and reached Tawang, where he was detained for some 3 months. Leaving Tawang in February 1875, the Pandit crossed the Se La (Saila pass) and travelling *viâ* Dirang Dzong and the Manda La reached Odalguri in the plains of Assam on March 1st 1875.

In December 1875 the road from Tsetang to Tawang was again traversed by Explorer L*, who had followed the course of the Tsangpo eastwards from Shigatse, and who wished to follow Nain Singh's route to Assam. At Tawang, however, permission to proceed was refused, and the party after having been taken before the authorities were imprisoned for a month in the public flour mill. Subsequently three mounted soldiers were told off to escort L back to Lhāsa. Fortunately some informality in the documents carried by the guard induced an intermediate official, through whose hands he passed en route, to release him, and he was able to make his way back to Shigatse.

In 1878, Captain Harman, R.E., trained a Sikkimese monk, Nem Sing†, and sent him to Tsetang with orders to survey the course of the Tsangpo eastwards. Owing to bad weather Nem Sing had to be despatched before his training was complete, while owing to fear of robbers for whom the province of Takpo was in those days notorious, he hurried over much of his work at undue speed, keeping his record on scraps of paper which were not properly entered on the field book. His astronomical observations were also vitiated by an error in his dates. As, however, Nem Sing is the only explorer with any pretensions to a scientific training who has hitherto traced the Tsangpo below Tsetang, it may be of interest to follow his report in some detail, in the light of our recent information.

Starting from Tsetang in October 1878 he followed the right bank of the river for 2 miles and then crossed by boat to the monastery of Ngāritasong (Ngāri Tratsang). Ten miles from Tsetang is the village of Jamtong (Jang), four miles further the monastery of Chakurjong comes into sight (Rongchakar is frequently referred to as Chākar Dzong). At 18½ miles from Tsetang are the remains of a large fort and the small monastery of Sangri; at 30 miles the road turns northwards away from the Tsangpo, and passing Chukorgye monastery, rejoins the left bank of the river 2 miles below Gyastsa dzong. Tala monastery (Talha Kampo) is seen to the north of the road at mile 101½, and four miles further is the monastery of Paruchude (Pari Chôte), near the birth place of the present Delai Lama, then a boy of 1½ years of age‡. At mile 120 he recrossed to the right bank of the river, on which bank his road continued as far as Gyāla. Three miles beyond the crossing he reached Takpo Nongjong§

* "General Report on the Operations of the Survey of India for 1878-79" Appendix pp. VII-XVIII.

† "General Report of the Operations of the Survey of India for 1878-79" where he is referred to as G.M.N. Appendix pp. I-IV.

‡ The Delai Lama was actually born at Trungtang, a few miles W. of Pari Chote, where a gilded temple has since been erected.

§ It is a very common practice among Tibetans to affix to the names of the more important villages &c. the name of the province in which they are situated; thus, Kongbo Lunang, Po Trulung, Takpo Tratsang, Mön Tawang, &c.

(Nang Dzong), two miles beyond which he crossed the Tsāri Chu. This must be our La Pu Chu, up which there is a road to Tsāri *via* the Sur La. Crossing the Kongbo (Khombo) Nga La, he reached the Kyimdong (Kimdong) confluence which is 5 days from Tsāri; he also remarks that at this point the river makes a great bend, and turns north-east for a course of nearly a hundred miles. Actually, as our map shows, the north-easterly direction is only maintained for some 20 miles. At mile 188½ he reached Orong and Gācha. Here he met a number of people who had come down the Lung Chu (Lilung Chu) for the purpose of trade, from a country 9 days journey to the south. These people whom he says are known amongst themselves as Pak-chātsiriba (Pāchakshiriba), and by the Tibetans as Membo (Mönba*), he wrongly identifies with the Lepchas of Sikkim. Actually these men were, of course, from the Siyom branch of the Dihang river, the upper portions of which, known as Pāchakshiri, are inhabited by Mönbas. At mile 215 he crossed the Naiupu (Nayü Pu) Chu, down which savages had come to trade. He halted two days to question these savages at a place called Mimjong, which I have failed to identify. Passing at mile 242½ the important monasteries of Chamna and Chamka (Temo Gompa) on opposite sides of the river, he finally reached Gyāla Sindong (Gyāla and Sengdam) to which he assigned a height of 8000 feet and a longitude of 94°. Here his traverse ended "in air".

In order to extend the work of Nem Sing, Captain Harman in 1880+
 Kinthup or K-P. despatched a Chinese monk with orders to explore
 the country below Gyāla, and trace the course of
 the Tsangpo to the plains of India, or failing this, to throw marked logs into
 the stream at the lowest point reached. Kinthup, a Sikkimese cooly, who had
 previously accompanied explorer Nem Sing to Gyāla, was sent with the
 Chinese monk as his assistant. The party travelled *via* Lhāsa, Tsetang,
 Rongchakar, Lhāgyāri Dzong, Putrang La, and Nang Dzong, to Kyimdong,
 where they spent some days on a begging excursion. Continuing their journey
via Cha ke (Jaket), Orong, and Gācha, they crossed to the N. bank of the
 river near Chamna and followed this bank to Gyāla and Sengdam.
 Finding the road on the N. bank of the river came to an end at Götsang
 Drupu a couple of miles below Sengdam, they retraced their steps to Gyāla
 where they crossed to the right bank of the Tsangpo, which they followed as
 far as Pemaköchung, beyond which point they failed to find a road. Kinthup's
 description of this country is in general quite accurate. Referring, however,
 to Pemaköchung, he makes the following erroneous statement: "The Tsangpo
 is two chains distant from the monastery and about two miles off it falls over a
 cliff called Sinji-Chogyal from a height of about 150 feet. There is a big lake
 at the foot of the falls where rainbows are always observable." Actually, the
 falls near Pemaköchung, to which the Tibetans have not given a name, are
 only some 30 feet in height, though it is true that a rainbow is visible on sunny
 days in the spray which is thrown up in immense clouds. On the other hand,
 falls called Sinji-Chogyal (Shingche Chögye) of approximately 150 feet do
 actually exist on the small side stream which, rising below the Tra La, joins
 the Tsangpo opposite Gyāla.

It would seem that in the course of dictation and translation of Kinthup's narrative, the accounts have been confused of the two separate falls.

* For meaning of the word Mönba *vide* Appendix I.
 } Lama Serap Gyatsho 1856-68
 } Explorer K.P. 1880-84
 † Report on the Explorations of } Lama U.G. 1883
 } Explorer R.N. 1885-86
 } " P.A. 1885-86.

Returning from Pemaköchung, the party recrossed the Tsangpo at Gyāla and proceeded *viā* the Dehmu (Temo) La and Kongbu Lunang* to Tong-Juk (Tongkyuk) Dzong. At this point the Chinese monk, having apparently become tired of the rôle of explorer, sold Kinthup as a slave to the Tongkyuk dzongpön, and decamped to his own country. On 7th March 1882 after nearly 10 months of captivity, Kinthup succeeded in making his escape. The first night he halted in a cave called Namding Pukpa below Layötting, and next day reached Po-Toi-Lung (Trulung†) near which he crossed the Po Tsangpo. At this stage, Kinthup's first care was evidently to make good his escape from captivity, and certain portions of the road appear to have escaped his memory. He says that he followed the left bank of the Poh-Tung-Dho Chu (Po Tsangpo) for 14 miles to its junction with the Tsangpo near Dorjiyu Dzong, 3 miles below which is Pango where there is a monastery called Tsenchuk. One mile below Pango he reached Pangshing, and five miles further Khing Khing (Kengkeng) below which he crossed to the W. bank of the Tsangpo by a "*bring*" or single-rope bridge, and reached Phuparong (Pupa Rong). Recrossing the Tsangpo, in three miles he reached Tambu on the east bank, whence he ascended the hill to Rinchenpung monastery. It will be noticed that Kinthup has in some cases got his villages in the wrong order, while between Dorjiyu Dzong and Pango and again between Pupa Rong and Tambu whole stretches of river have evidently totally escaped his memory. From Rinchenpung, Kinthup made the pilgrimage of the sacred peak of Kondü Potrang, after which he returned to Tambu, and pursued his journey down the Tsangpo. At Marpung in order to escape recapture by the servants of the Tongkyuk Dzongpön, he was compelled to take service with the head monk of the monastery. After $4\frac{1}{2}$ months in the monk's service, he obtained leave of absence on pretence of going on a pilgrimage. He travelled to Giling where he prepared 500 logs of wood, hid them in a cave, and returned to the monk. After two months he again obtained leave of absence. This time he crossed the Doshong La to Pe, and made his way *viā* the Bimbi La to Tsāri where he made the pilgrimage. From Tsāri he travelled to Lhāsa, where he got a letter written through "Nimsring" (evidently the same individual as explorer Nem Sing, or G.M.N.) who was then employed as interpreter at the Darjeeling Courts, to the "Chief of the Survey of India", to the effect that he was prepared to throw 50 logs per day into the Tsangpo from the 5th to the 15th of the tenth month of the year Chuluk (water-sheep year *i.e.* 1883). Kinthup returned from Lhāsa by the northern route along the China road (the Gyalam of A—K) as far as Giamda, whence he followed the Giamda Chu to its confluence with the Tsangpo at Tsela. Crossing the river at Chamnag he returned *viā* the Doshong La to the monk at Marpung, in whose service he remained for a further nine months. Having finally obtained his freedom from the monk, he threw his logs into the river as arranged and continued his wanderings down the Dihang into the Abor country, whence he was compelled to retrace his steps, finally reaching Darjeeling *viā* Lhāsa on 17th November 1884, where his story was subsequently taken down by Lama U.G. (Ugyen Gyatso), and translated into English by an employé of the Survey Department called Norbu. It should be added that Kinthup not being a trained explorer, his information was not based on a route survey and can only be regarded as a *bonâ fide* story of his travels related from recollection two years after his return.

* Lunang on the map, *vide* footnote page 10.

† Trulung on map, *vide* footnote page 10.

The only remaining travellers who call for mention are two members of the Bengal Educational Service. Sarat Chandra Das in his interesting book* has given a graphic description of the Yarlung valley which he visited on his return from Lhāsa in November 1882.

Ugyen Gyatso† who had accompanied Sarat Chandra Das on both his journeys to Tibet, was despatched to Tibet on special duty from the Director of Public Instruction, Bengal, in June 1883. Travelling *viā* Gyantse, Shigatse and the Yamdok Tso, he reached the northern shore of the Trigu Tso, and thence crossed the Che (Cheya) La into the basin of the Yarlung. From Tsetang he visited the Wokar or Hokar (Öka) Chu, returning *viā* Sangri along the northern bank of the Tsangpo to Samye and Lhāsa. His narrative, like that of Sarat Chandra Das, does not give much fresh geographical information but forms an interesting record of Tibetan social and religious customs, concerning which he has many quaint stories. He particularly dwells on the freedom accorded to women in Tibet, finally laying down the maxim, as the result of much varied experience, that a fair complexion amongst the gentle sex always indicates true kindness of heart.

As has been previously remarked, it was only possible to use the most rough and ready methods in carrying on our reconnaissance survey. The system adopted was merely that of setting up the planetable by compass and estimating distances by time. Where the line of march is more or less meridional the observations of latitude give a sufficiently satisfactory indication of the accuracy of the estimates of distance. Where, however, the direction of march is east and west, as in the case of our long journey up the Tsangpo from Pe, such indication is lacking. Fortunately, in this case, a check was available in the fact that the position of Tsetaug was known with considerable accuracy from the work of Nain Singh.

20 observations were taken for latitude, and 7 azimuths. Of the latter, three were to trigonometrically fixed peaks and were used in conjunction with observations of latitude to determine the complete co-ordinates of 3 important points on the route. The remaining four azimuths were merely used to check the compass setting of the planetable from time to time. The instrument used was a 3-inch theodolite by Casella, which screwed on to a light prismatic compass stand when required for taking astronomical observations; the same instrument was used, resting on the planetable, as a clinometer, thus avoiding the necessity of carrying the latter instrument.

43 hypsometric observations were taken of height; of which one has been rejected owing to cyclonic disturbance. These observations were worked out on the spot by the absolute method (Auxiliary Tables, table XX), and have been subsequently recomputed from the 3 base-stations of Dibrugarh, Tezpur, and Darjeeling. I am indebted to Dr. G. C. Simpson of the Meteorological Department for kindly supplying the necessary data and undertaking the latter computations. Five heights have also been determined by clinometric method.

* *Journey to Lhasa and Central Tibet, by Sarat Chandra Das, C. I. E.*, pp. 297-307.

† *Report on Expeditions &c. 1856-56.*

In compiling the fair map, the positions of the following places were accepted as fixed, for the purpose of adjustment of the traverse, in addition to the points mentioned

Fair map.

in Appendix II, viz :—

Yong gyap La, from Mishmi Exploration Survey 1912-13.

Tsetang	}	from Nain Singh's traverse, adjusted to the latest value of the longitude of Lhāsa.
Yartö 'Tra La		
Tsöna		
Tawang		
Dirang		

Trashigang Dz. from N.E. Transfrontier sheet No. 7.

The spelling of Tibetan place-names is always a source of difficulty to the topographer. Very great care has been exercised in regard to the orthography of the names occurring on our map; these have almost invariably been spelled for us in the vernacular by dzongpöns or reliable officials, and have been transliterated in accordance with the system devised by Major O'Connor. Some five hundred names are believed to be new, while in several instances the spelling of old names has been revised, notably by the substitution of *Ts* for *Ch* in Tsetang and Tsöna, and of the symbol *ö* for *oi* in such names as Pemakö, Parichöte.

It is hoped that the brief glossary of the words in common use in Tibetan place-names, given in Appendix I, may render our map more interesting, and may further conduce to a greater uniformity in the somewhat haphazard methods of spelling adopted in the present atlases of Tibet.

A brief summary of the principal geographical results of our expedition may not be amiss. Climatic conditions militated against the discovery of more than a very few new snow peaks;—indeed the only ones whose position I was able accurately to determine were those of the Gyāla Peri group N. W. of, and across the river from Namcha Barwa. Gyāla Peri itself is 23,460 feet, in height, while a satellite of Gyala Peri and the peak of Sengdam Pu at the opposite end of the same range are both over 20,000 feet.

The magnificent peak of Namcha Barwa had, of course, been previously fixed from the south both by the Abor Survey party, and by my own observations from the Mishmi hills, but our examination of the Tsangpo gorge on its northern flanks enabled us to definitely prove that this was but another striking example of the extraordinary feature of Himalayan geography noted by Colonel Burrard,* namely that when a Tibetan river cuts through the Himalayan range, it almost invariably selects the very highest portion of that range, through which to pierce its gorge.

We have not succeeded in throwing much light on the course of the Himalaya east of Namcha Barwa. There is a very sharp range of snowy mountains in the curious loop of the Po Tsangpo north-west of the Sü La, but whether this is a true continuation of the Himalayan chain, further investigation can alone decide.

Our map shows one glacier flowing southwards from the Gyāla Peri range, and five flowing north and west from Namcha Barwa, while we were informed that a sixth glacier occupied the upper portion of the Pupa Rong valley. These glaciers

Glaciers.

* *A sketch of the Geography and Geology of the Himalaya mountains and Tibet*, by Colonel S. G. Burrard, R. E., F. R. S. and H. H. Hayden, B. A., F. G. S. Part III, pp. 160, 166.

all bear evidence of slow but prolonged retreat. The Trilung glacier, which we visited, at present ends some 2 miles short of the Tsangpo, the height at the foot of the "Chinese wall" being 11,400 feet. Pines of 30 years growth were to be found $\frac{1}{4}$ mile below the present limit of the ice. The Sanglung glacier, which is the largest of group, descends to within 1 mile of the Tsangpo, the height at foot of snout being only 9030 feet.

The Po Tsangpo and Yigrong valleys had not been previously visited by travellers, and it was interesting to find in the story of the origin of the Yigrong lake an explanation of the famous flood of 1900 on the Dihang,* as well as of the genesis of the Tibetan colony at Mipi in the Mishmi hills.

We were able to obtain a fairly complete picture of the courses of the various Tibetan headwaters of the Subansiri, viz. the Tsari, Char, Nye and Loro rivers down to the points at which they pierce the Himalayan chain; while further west we found in the Nyamjang Chu, a new and important Tibetan tributary of the Manās system hitherto unmapped.

It is noteworthy that the falls of 30 feet on the Tsangpo at Pemaköchung are higher than anything hitherto recorded on the big rivers of Tibet and the Himalaya; indeed the only other known instance on a large Himalayan river is the 20 feet fall on the Indus near Bunji.

With the exception of the Yigrong Tso, we have found no new lakes of any importance.

Hypsometric observations were taken on 12 passes of over 15,000 feet, while the approximate positions of numerous others have been indicated on the map from local information.

It only remains to add that we everywhere met with the utmost courtesy and hospitality from the Tibetans. In a country whose people are such born natural hosts, travelling must always be a pleasure, and it is infinitely to be regretted that our own political conditions at present impose restrictions on unfettered communication with a neighbouring friendly state. Our policy of absolute openness with regard to the objects of our journey and the making of the map have already been referred to. When one recalls the difficulties that have attended Tibetan exploration down to as recently as the expedition of 1904, the success of this policy is a sufficient indication of the modern enlightenment of the people. We may perhaps claim that our greatest discovery is that it is now possible for anyone who can cross the frontier to traverse the country from end to end openly with planetable and theodolite and without even the formality of a passport from Lhāsa.

I cannot conclude this report without placing on record how largely the success of our undertaking was owing to Captain Bailey to whom was due the original idea of the expedition, and but for whose thorough knowledge of the language and customs of the country it could never have been successfully carried out.

* Vide article by A. Bentinck. *Geographical Journal* for February 1913, p. 107.

APPENDIX I.

Glossary of terms of common occurrence in Tibetan place-names.

Chang	... North.
Lho	... South.
Shar	... East.
Nup	... West.
Ri	... Hill.
Kangri	... Snow hill
Tse	... Peak.
Lā	... Pass.
Lātsa	... Hut or camping ground at foot of pass.
Chu	... Water, river.
Tso, Tsomo	... Lake.
Sampa (- Sam)	... Bridge.
Chaksam	... Iron bridge.
Bāsam	... Cane foot-bridge.
Dring, bring	... Single-rope bridge.
Lamka (- Lam)	... Road.
Lingka (- Ling)	... Garden.
Shika	... Estate, country house.
Tang	... A plain, or "maidan".
Dzong	... Fort, headquarters of Dzongpön.
Gompa, Tratsang	... Monastery.
Ani gompa	... Nunnery.
Kangpa (- Kang)	... House.
Lhakang	... Temple.
Pangkang	... Hut (Lit. "plank house").
Rap	... Ford.
Drok, Drokpa	... Grazing Camp, grazier.
Chöte	... Chorten (Monastery or temple).
Pukpa	... Cave.
Sāchā (- sa)	... A place.
Lungba (- lung)	... District, or river-basin.
Yul, Yü	... Country.
- tö (adj.)	... Upper.
- me (adj.)	... Lower.
Pu	... Upper end of a valley.
Dā	... Lower end of a valley.
Sumda, Sumdo	... Junction of two valleys.
Chenbo (- chen)	... Large.
Chungchung (- chung)	... Small.
Nakpo	... Black.
Karpo	... White.
Rong	... Gorge, ravine.
Mön	... Low-lying wooded valley.
Mönyul, Mönyü	... Name of a district E. of Bhutan.
Mönba	... Inhabitant of Mönyul.

APPENDIX I.—(Continued).

Drukü, Drukpa	...	Bhutan, Bhutanese.
Hor, Horba	...	Turkistan, Turki.
Sokpo	...	Mongolia, Mongolian.
Pö, Pöba	...	Tibet, Tibetan.
Gyana, Gyami	...	China, Chinaman.
Gyagar	...	India, Indian.
Lopa*	...	Barbarian.

Note.—The syllables in brackets indicate the abbreviated form which certain words assume when used to form the last half of a compound name. *e.g.*, Pemaköchung (chungchung) = Little Pemakö. Lhäsä (Sächä) = God's place. Dorjeling (lingka) = Garden of Dorje.

* The word Lopa is comprehensively used in Tibet to include the numerous wild tribes—Abors, Mishmis, Dafflas, &c., who inhabit the Himalayas between S.E. Tibet and the plains of Assam.

APPENDIX II.

*Synopsis of trigonometrically fixed points, latitude observations,
and determinations of height.*

A — Trigonometrical Interpolations.

Name of Station	Latitude			Longitude			Height <i>feet</i>	REMARKS.
	°	'	"	°	'	"		
Sü La ...	29	49	32	95	24	56	13,445	2 known points and an azimuth.
Pemaköchung Gompa	29	44	31	95	4	8	8,807	do. do.
Trashi Tongme ...	28	13	37	92	32	44	13,974	Single known point, latitude and azimuth.

B—Latitude observations.

Name of Station	Latitude			REMARKS.
	°	'	"	
Yong gyap Latsa N. ...	29	16	43	Mean of 2 "shots" only.
Makti village ...	29	24	35	Centre of village.
Sü La ...	29	49	47	Latitude by trigonometrical interpolation = 29° 49' 32".
Dzonting ...	30	0	17	Bend of river, N. bank opposite village.
Dongkar ...	30	10	35	1 mile S.W. of village.
Layötting ...	29	59	45	S. edge of village.
Pe ..	29	30	53	$\frac{1}{2}$ mile S. of village.
Gadza Chu confluence ...	29	45	16	Small stream joining the Tsangpo 5 miles W. of Pemaköchung.
Pemaköchung Gompa ...	29	44	57	Latitude by trigonometrical interpolation = 29° 44' 31".
Tsela Dzong ...	29	26	9	100 yards E. of dzong.
Kyimdong confluence ..	29	0	18	$\frac{1}{4}$ mile S. of confluence.
Kongbo nga La ...	29	0	18	Summit of pass.
Putrang La ...	29	2	37	do.
Tsetang ...	29	15	1	Roof of house at W. extremity of town.
Pödzo Sumdo ...	28	41	30	
Sanga Chöling ...	28	32	18	Garden of "Trokang" or summer-house of Gompa.
Trashi Tongme ...	28	13	37	Spur $\frac{1}{4}$ mile N. of Monastery.
Dyuri ...	27	40	28	Centre of village.
Kyeo ...	28	24	51	do.
Dongkar Dzong ...	28	8	55	Courtyard of dzong.

C — Hypsometric Heights.

	<i>feet</i>
Yong gyap La ...	13,022
Yong gyap Da ...	10,588
Pungpung La ...	14,305

APPENDIX II.—(*Continued*).C—Hypsometric Heights—(*Continued*).

Name of Station	Height	REMARKS.
	<i>feet</i>	
Shūmo confluence ...	2,624	Abor survey height of 2,500 feet midway between Shūmo and Chimdro confluence.
Chimdro confluence ...	2,606	
Sū La ...	13,721	Height from Trig. determination = 13,445 feet.
Showa village ...	8,522	210' above level of river.
Yigrong confluence ...	6,751	
Yigrong Tso ...	7,301	
Trulung, river level ...	6,424	
Tongkyuk bridge ...	8,344	
Nyima La ...	15,238	
Pe, river level ...	9,683	Captain Trenchard's hypsometric height = 9,500 feet.
Trilung glacier ...	11,405	Foot of "Chinese wall" at snout of glacier.
Nyuksang, river level ...	8,732	
Pemaköchung falls ...	8,381	Water-level at top of falls.
Pemaköchung Gompa ...	8,953	Height from Trig. determination = 8,807 feet.
Sanglung confluence ...	8,089	
Sanglung glacier ...	9,035	Foot of "Chinese wall" at snout of glacier.
1½ miles below Sanglung confluence ...	8,010	River-level.
2 miles below Churung confluence ...	7,477	do.
Kyimdong confluence ...	10,238	
Kongbo nga La ...	14,574	
Putrang La ...	16,469	
Trap, river level ...	11,774	
Tsetang ...	11,853	Previous hypsometric determination by Pandit Nain Singh = 11,480 feet.
Yartö Tra La ...	16,698	Previous hypsometric determination by Pandit Nain Singh = 16,020 feet.
Pu La ...	15,189	
Druk La ...	16,597	
Kongmo La ...	17,519	
Migyitün village ...	9,632	
Chikechar bridge ...	11,893	
Cha La ...	16,607	
Raprang, river level ...	10,334	
Le La ...	17,177	
Pen La ...	17,327	
Tulung La ...	17,251	
Dyuri bridge ...	11,633	
Se La ...	13,938	Previous hypsometric determination by Pandit Nain Singh = 14,260 feet.

APPENDIX II.—(Continued).

D—Clinometric Heights.

			<i>feet</i>
Pö La	...	...	14,896
Nyāla La	...	...	16,992
Hor La	...	...	17,677
Gyāla Peri S. P.	...	...	23,463
Satellite pk. of Gyāla Peri			20,743
Sengdam pu S. P.	...	...	20,699
Tra La	...	...	15,910
Yālā Shampo S. P.	...	...	20,228

APPENDIX III.

*Hourly meteorological observations taken at Showa on
26th and 27th June 1913.*

No. of column.	26-6-13			27-6-13						
	2	3	4	5	6	7	8	9	10	11
Local mean time	Air temperature	Aneroid No. 6721	Aneroid No. 5611	Air temperature	Aneroid No. 6721	Aneroid No. 5611	Mean of columns 2 & 5	Mean of columns 3 & 6	Mean of columns 4 & 7	Mean of columns 9 & 10
7 a.m.	53.5	21.17	20.63	54.0	21.24	20.70	53.8	21.21	20.67	20.94
8 "	55.0	18	64	56.5	25	71	55.8	22	68	95
9 "	57.8	19	65	57.5	26	71	57.7	23	68	96
10 "	58.3	20	66	59.0	26	71	58.7	23	69	96
11 "	59.0	22	64	63.0	25	71	61.0	23	68	96
12 Noon	60.0	20	64	63.5	25	67	61.8	23	66	95
1 p.m.	62.0	19	61	66.0	22	65	64.0	21	63	92
2 "	63.5	17	60	67.0	21	63	65.3	19	62	91
3 "	63.3	17	58	66.5	19	61	64.9	18	60	89
4 "	63.0	15	56	65.5	18	60	64.3	17	58	88
5 "	61.0	16	58	65.5	18	60	63.3	17	59	88
6 "	60.5	17	57	63.3	17	59	61.9	17	58	88
7 "	59.0	17	60	61.0	18	61	60.0	18	61	90
8 "	57.0	19	65	59.5	20	64	58.3	20	64	92
9 "	56.5	21	65	57.5	22	65	57.0	22	65	94
	Weather cloudy and overcast. Wind nil. Hillsides above 9,000 ft. hidden in mist all day. Light rain commenced 4 p.m. and continued all night.			Weather cloudy and overcast. Wind nil. Light rain 5 to 6 p.m.						

~~CONFIDENTIAL~~

REPORT
ON AN
EXPLORATION
ON THE
NORTH-EAST FRONTIER

1913

BY

CAPTAIN F. M. BAILEY, I. A.

Political Department.



SIMLA.

PRINTED AT THE GOVERNMENT MONOTYPE PRESS.

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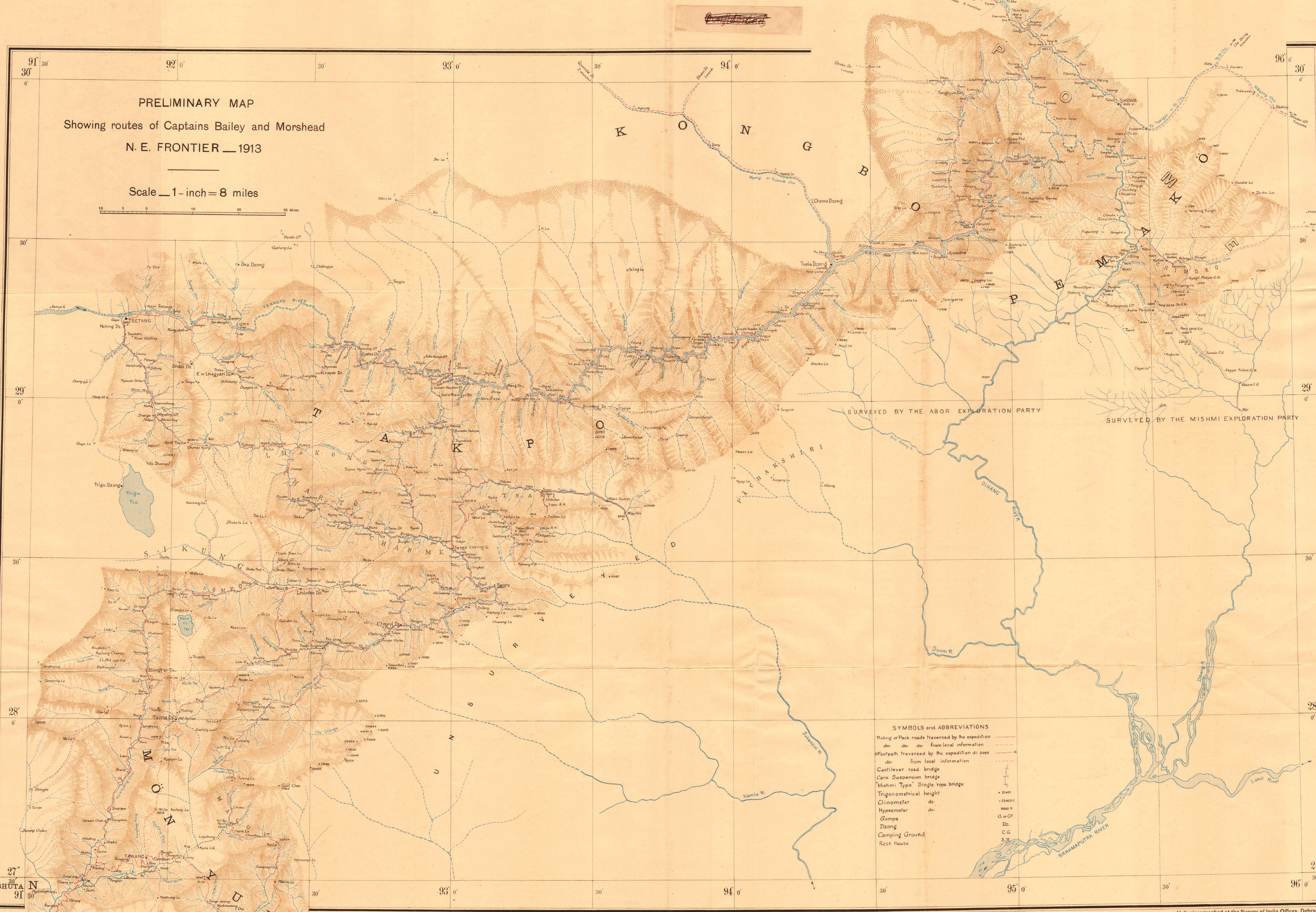
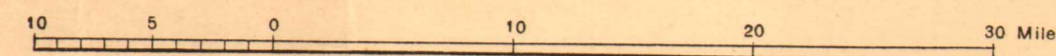
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PRELIMINARY MAP
 Showing routes of Captains Bailey and Morshead
 N. E. FRONTIER — 1913

Scale — 1-inch = 8 miles



SURVEYED BY THE ABOR EXPLORATION PARTY

SURVEYED BY THE MISHMI EXPLORATION PARTY

SYMBOLS and ABBREVIATIONS

- Riding or Pack roads traversed by the expedition
- Footpath traversed by the expedition (a) pass
- Footpath traversed by the expedition (b) pass
- Cantilever road bridge
- Cane Suspension bridge
- 'Mishmi Type' Single rope bridge
- Trigonometrical height
- Clinometer
- Hypsometer
- Gompa
- Dzong
- Camping Ground
- Rest House

CHAPTER I.

PO ME.

1. Po me includes the valley of the Nagong Chu from the point where it breaks through the range of mountains which lies to the west of Shiuden Gompa, up to the junction with the Tsangpo at Gompo ne. The river is called the Po Tsangpo or Po Chu in its lower reaches. The Pobas of Po me are also the owners of the Tsangpo valley from the Gyama Taki spur which runs east of Sanglung glacier below Pemaköchung, down to the Abor frontier. The valleys of some tributaries of the Po Tsangpo which join it from the north at Kata constitute the district of Po tö. The frontiers of this district are described in Chapter IX.

The people claim to be independent of Lhasa though there are three estates in the valley which are directly under the Lhasa government. The Dzongpön of Tsela, the district of Kongbo which adjoins Po me on the west, said that he collected a tax of about 5,000 lbs of butter annually which he sent to Lhasa for the support of the large number of monks there. The Pobas did not mention this tax. They also collect a small tax of sulphur from the people of lower Kongbo (see page 17).

The Pobas have the reputation of being wild robbers. They most certainly raid the countries bordering on them, though the people of Po tö are said to be worse in this respect, and A. K. mentions these robbers on the Gyalam (or main Chinese road). The people of Kongbo told us that we were extremely lucky in getting through Po me alive as they usually kill all travellers who are worth robbing. This is of course an exaggeration, but it shows the feelings that other Tibetans have towards the Pobas. The people of Temo complained to us that the Pobas frequently looted their ponies from near Lunang, where they were sent to graze, while during the fighting the Chinese commandeered about 400 ponies from the vicinity of Temo in the Tsangpo valley all of which were captured by the Pobas who refused to restore them.

2 *Administration*—The administration of Po me has been thrown out of gear since the Chinese entered the country and killed every one of any importance or authority; but the Pobas hope that the former state of things will be revived. The capital of the country is Showa, but 10 or 15 generations ago it was at a place called Kanam, two days' march further up the valley, and nowadays official documents are dated from Po-Kanam and the Government officials are sometimes called Kanam Pa. In the valley of the Po Tsangpo are five chiefs who were to a great extent independent but over whom the Kanam Pas claimed a kind of suzerainty and who paid them tribute. These chiefs are known collectively at Dekar Nga (five chiefs). They were named after their districts, Tang me, Kata, Göndza, Kato and Nyilo. These chiefs are not people of any great wealth or importance. They govern from 15 to 100 families the richest being Nyilo. There are also three estates in the valley directly under the Lhasa Government and which are independent of the Showa authorities, these are Sumdzong Chudzong and Dashing. The Lhasa Government appoints Dzongpöns to manage these estates but as they are situated at a great distance from Lhasa, the officials, according to the Tibetan custom, live in Tibet at their own homes and appoint agents who live in Po me and do the work connected with the administration. At Shio on the 30th September we were the guests of the Dzongpön of Chudzong who was living on his own estate and who had never visited his charge.

At Showa itself was a fine stone palace belonging to the king who was aided in his administration by a council. On the arrival of the Chinese the king and four of the chiefs besides eight members of the council were killed. The only remnants of the former aristocracy are the two wives of the king and one daughter, aged 14, and two brothers who are the Nyilo chiefs and were spared by the Chinese on account of their youth, while of the council our friend Nyerpa Namgye who happened to be at Chiamdo when the executions took place is the only one left. One of the Nyilo chiefs is eventually to marry the daughter of the king and they hope to resuscitate a royal family from the union. After the Chinese had been driven out the Nyerpa went to Lhasa and brought back the two queens and

the young daughter who had been carried off to Lhasa by the Chinese. He met the Delai Lama at Samding who told him that he had been well treated in India.

At present the Poba officials say that owing to the action of the Chinese they have very little authority over the peasants. One peculiarity of the administration which also applies to other parts of Tibet is the absence of force behind those in authority. There are no police and no standing army. The Poba official who went down to Pemakö to punish the people for killing the king, had no force beyond half a dozen servants who carried firearms, and yet he was able to recover a fine of about Rs. 2,000 and to execute one man.

3. *Pemakö*.—The valley of the Tsangpo below the gorge is known as Pemakö a vague term the district having no definite boundaries. Formerly this valley was inhabited by Abors but, about 100 years ago, a large number of people from eastern Bhutan and the neighbourhood of Tawang immigrated into this country. They came in search of a land of promise which ancient prophesies had called Pemakö and which was believed to be near the frontiers of India.

According to M. Bacot the French traveller this prophesy was to the effect that, when their religion was persecuted in Tibet, the people should go to Pemakö where they would find a land where rivers flowed with milk, where crops grew without the necessity of any labour, and whence their religion would spread over the whole world. In his book "Le Thibet revolté" he states that the ravages of the Chinese soldiery on the eastern Tibetan frontier caused a fresh migration in search of this land and he describes the villages deserted by the inhabitants who had fled from the Chinese to seek this land of promise. This migration was probably responsible for the large number of Tibetans who entered the Dibang valley as described in paragraph 4 below.

The descendants of these first immigrants now form to a large extent the population of the valley; they are called Mönbas or Drukpas indiscriminately: the former name means an inhabitant of the Tibetan district of Mönnyul near Tawang, and the latter means Bhutanese. They still speak a dialect of Mönba, the language spoken near Tawang. The Bhutanese still like to consider themselves as subjects of the Tongsa Penlop and speak of him with great awe. They all know from which village their ancestors came. They wear a dress like the Tibetan *Chuba* but rather shorter and on account of the heat the upper part of the body is usually slipped out of this robe which hangs round the waist; they are of course Buddhists by religion. A portion of this immigration settled in the Pachakshiri country in the upper waters of the Siyom and are Tibetan subjects. (See Chapter XI (2).) The Abors who were the former inhabitants of this country were gradually pushed southwards though some were absorbed by the Mönbas and in the valley there are at present many Abor (Lopa) villages, while in some cases the Lopas live in the same villages as the Mönbas. These Lopas in Pemakö have adopted Tibetan dress and can all speak Tibetan, and many of them have adopted the Tibetan religion. They have not entirely given up their old customs and we saw a Lopa girl in Tamu village wearing a *Boypur* and in Kapo we found the horns of takin and cattle on the walls, another Abor custom. In the Lopa village of Druk where we spent the night of 16th June we found a line of water-turned prayer wheels and people professed to be Buddhists. To our eyes the Mönbas and Lopas of Pemakö were indistinguishable. Before the Mönba immigration the whole of Pemakö belonged to the Lopas and was independent of Po me. At the time of their arrival the Mönbas obtained help from the Pobas in their war with the previous occupants, and after the country was settled all the inhabitants both the Mönbas who had lately arrived and the Lopas who remained in the valley were taken over by the Pobas and at present pay them taxes. For many years the southern border between the Poba territory and that of the independent Abors or Lopas remained undefined and, as is usual with these people, the frontier villages remained in a perpetual state of war. About the year 1905 the Abors raided up the valley and burnt the village of Hangjo below Rinchenpung and penetrated as far as Giling. Up to this time the Pobas had allowed the frontier villages to settle their accounts with the Abors as best they could, but they now became alarmed and sent troops into Pemakö to help their subjects on the frontier. The Pobas defeated the Abors and forced them to recognise a frontier line. They built a *dzong* or fort near Jido

called which they Kala Yong Dzong and posted an official there. This is probably the same place as Nyerang. South of the above-mentioned frontier the Pobas claim 1,000 families of Gyamo Pumo Lopas who live on the right bank of the Tsangpo and are probably Karko Arbors; they pay a nominal tax in rice. The Pobas also say that the valley down as far as Shimong belongs to them but that they have little to do with the people; they say that if they travelled there the people would recognise them as their masters and would provide them with free transport coolies. These claims are very unsubstantial and the Abors including the Karko would probably not admit them. The Pobas at Showa did not even know the names of the villages which they say pay them tribute.

The taxes paid by the people of Pemakö to the Pobas vary in different villages. The following details of a few villagers may be taken as samples. In Makti a Mönba village each house pays 3 *tre* of rice (6 lbs.) annually; and 3 tankas (about Re. 1) or cotton cloth in lieu every other year. In the four villages of Hangjo, Tambu, Pari and Meto each house pays 8 *tre* of rice (16 lbs.) and 1 tanka ($\frac{1}{3}$ rupee) a year. The taxes from Pari and Meto are paid to Rinchenpung Gompa to support the monks, while Hangjo and Tampu send their taxes to Showa.

The administration of this valley is in the hands of three small officials under the Poba authorities. They live at Kala Yong Dzong, Meto and Pangodidung. It was intended to station a dzongpön at Rinchenpung and a large house was built for him which was new when Kinthup visited the place in 1881, but for some reason the Pobas have carried on with a smaller official who lives at Meto. Pangodidung is on the right bank of the river and the arrangement here is that an official (at present he is a Mönba) is chosen from the villages on the right bank who holds office for three years after which a man from a village on the left bank (*i.e.*, Druk, Pangchen, etc) is appointed. The Chimdro valley is under a dzongpön who is now an incarnation called Pongla Lama, his jurisdiction extends to the two villages of Kapu and Tamu in the Tsangpo valley.

4. *Poba settlement in the Dibang valley.*—In Pemakö was said to be a holy mountain of glass which the Tibetans believe to be somewhere on the Lohit-Dibang watershed. The Tibetans at Mipi in the Dibang valley still hope some day to reach this mountain, but at present they cannot go into the country on account of the hostility of the Mishmis. Some ten years ago about a hundred Tibetans from various parts of eastern Tibet entered the upper Dibang valley, coming over the passes at the head of the Dri, Andra and Yongyap valley. These people settled down on friendly terms with the Mishmis, though quarrels were not unknown and one Tibetan was killed. In the following year about two thousand more immigrants arrived from Kham, Derge, Po me and other places. Many of these died on the road as they encountered bad weather on the passes. As soon as they arrived in the villages it was seen that the country could not support such a number of people and many returned at once, most of them going into Zayul over the pass at the head of the Dri. This retirement was disastrous and numbers died on the road from starvation. On the roads up the Andra and Yongyap rivers we found in caves the bones and utensils of the people who had perished when returning. At first those who remained got on well with the Mishmis but after about two years quarrels arose. The Mishmis laid ambushes, set traps on the jungle paths and attacked the Tibetans whenever an opportunity occurred; they also burned their houses and crops. The Tibetans had difficulty in holding their own against such an elusive enemy. They seldom saw them and were frequently shot with poisoned arrows from the dense jungle. In addition to their troubles with the Mishmis, they were also afflicted with sickness owing to the low altitude, (4,800 feet) to which they were not accustomed, the excessive rainfall and the numbers of bloodsucking flies. So, about five years ago, the majority decided to return leaving only about a hundred behind who are now living in the Matu valley. The people who remained were the old, sick, children and, others who felt that they could not accomplish the arduous return journey in safety. With these some men also remained to look after them and protect them from the Mishmis. This colony now numbers about 90 souls, and each year when they go to Chimdro to trade some of the inhabitants remain there while a few fresh immigrants are usually brought back. As soon as the majority of the Tibetans returned to Tibet the Mishmis reoccupied the valley of the Dri

Some of the Pobas who entered the Dibang valley were those whose homes had been destroyed by the great flood in the Yigrong valley, and who remained four or five years at Chimdro when disease drove them unto the Mishmi hills.

These people pay no taxes to the Pobas, but the latter consider them as their subjects and paid the Mishmis for the land taken; the price was 25 swords, 25 axe heads, 2 loads of salt, 4 rolls of woollen cloth and two Tibetan woollen coats, the total value of which would be between five and six hundred rupees.

5. *Resources.* In Pemakö the usual Sub-Himalayan crops are grown, rice, maize, murwa, etc. We also noticed a little cotton and some indigo. At Giling village we paid for rice at the rate of 4 seers a rupee, probably this is higher than the usual rate. The madder dye plant grows wild up to about 4,000 feet, and there is a considerable trade in it. The hills are clothed in dense forest for some two thousand feet above the river. Above this is a belt of cultivation and clearings, while higher up still the forest again covers the hills. In the upper part of Pemakö above Kapu the hills are very steep with precipices in many places and the villages few and far between, and here rice does not grow, but there is a little wheat which is not grown lower down the valley. In the lower half of the valley, walnut, lime and peach trees grow in the villages. Cattle, *mithan*,—or a fine animal with a strong *mithan* strain—pigs and fowls are in all the villages, and a few sheep and goats are brought in from Kongbo. Ponies are not kept as the roads are not good enough, but there are a few at Rinchenpung and in the villages near Meto in the valley below. The houses in the lower part of the valley are of wood built on piles with thatched roofs, while higher up they are of wood and stone with roofs of shingles kept in place by stones. In the upper part of the valley the people are more advanced in civilization as they are more in touch with the Pobas, and the Lopas there have probably been longer under their domination, while lower down the people are more allied to the Abors, and this has affected the Mönbas who immigrated into the valley, those lower down being less advanced than those higher up. In the Po Tsangpo valley and other parts of Po me which were visited the main crops are barley and wheat though a little maize and murwa is also grown as well as peach and walnut trees. The cattle which are kept on the hills are yaks and *dzos* (half-bred yaks) while in the valleys are *dzos* and others with a *mithan* strain. Po me is said to be famous for breeding ponies, but we saw very few; the people said that the Chinese took many which they killed by overwork. The houses are of stone and wood with shingle roofs. They are large rambling buildings of one storey. The people keep bees in most villages and also collect wild honey. They also manufacture paper from a plant grown locally. A kind of pulp is made and mixed with water in a trough in which a sieve is dipped; this is lifted out when a film of the pulp remains in the sieve which is dried in the sun forming a sheet of coarse paper which is then taken off. At Pango, which we passed on the 18th June, the people quarry soapstone and from this make bowls and cooking utensils, some being as much as a yard across. These are sold in different parts of Po me and also in Kongbo. These are the chief cooking utensils in the parts of Po me that were visited. They are very cheap but brittle. Near Pangchen and Pango the people quarry large slabs of sandstone which are used for making their houses and for building *mendonjs* (walls on the road covered with religious inscriptions). These large slabs were a source of wonder to Tibetans from other parts. Iron is smelted in the Ygrong valley which is described in Chapter XVI. The Poba women have a peculiar way of doing their hair. The fringe is folded round a piece of bambo and forms a peak in front of the head.

6. *Language*—The Poba language is a dialect of Tibetan resembling that of the Khambas. In the outlying villages very few people can speak Lhasa Tibetan though they can usually understand it. The following notes on the dialects will enable anyone acquainted with Lhasa Tibetan to pick up the dialect very quickly.

“Ky” is pronounced “Ch” as in the Khamba dialect. The short “A” is pronounced “Ö.”, e.g., *Kyang*, the wild ass, is pronounced “*Chong*.”

The letters “Br” when written in Lhasa Tibetan are pronounced “Dr.” In Po me they are pronounced “Br” as they are written and sometimes as “B” alone, e.g., rice is “*Dre*” in Lhasa, and “*Bre*” or “*Be*” in Poba; similarly Trulung, a village on the Po Tsangpo, is called “*Prulung*” or “*Pulung*” in Poba.

A few of the common words which are distinct from the Lhasa language are added:—

English.	Lhasa Tibetan.	Khamba.	Poba.
Is	Du	Ge	Da.
Is not	Min du	Min ge	Me da.
What is it called	Kare se gi re	Ki dzo gi re	Ki lö shi da.
Is coming	Yong gi re .. .. .	....	Yong shi da.
Do not see	Mik thong gi ma re .. .. .	....	Mik gi ma rig.
A little	Tok tsa .. .. .	....	Dze tse.
Brother	Ajo	Abu	Ada.
Load for (coolie)	Dok thre .. .. .	....	Ku tsa.
Food	Khala .. .. .	....	Jara.
To-morrow	Sang nyin .. .. .	....	Nong pa.

7. *Flood in the Yigrong valley.*—About the year 1900, though some Pobas say 1896, there was a disastrous flood which carried coniferous trees of a kind which do not grow in the Abor hills and the dead bodies of Pobas down to Assam. This flood is described by Mr. Bentinck, who received accounts of it from the Abors. Up the Yigrong valley we came upon the origin of this flood, an account of which may prove interesting. A small but rapid stream about 15 feet wide called the Tralung joins the left bank of the Yigrong from the north-east a couple of miles below Dre village. This stream comes from a bare desolate-looking valley up which the people had never travelled. They say that the stream is liable to sudden floods caused by evil spirits, and for that reason it is useless to bridge it; whenever a bridge has been built the stream has taken it away, so now the traveller is obliged to ford. Some time in July or August of the year of the flood this stream ceased to flow for three days, after which it came down bringing with it a mass of earth and stones. This spread out in a fan right across the Yigrong valley, which it dammed up. This fan was 1½ miles wide and spread a mile beyond the right bank of the Yigrong and must have been at least 400 feet thick, as, with an aneroid, we measured the thickness at the point where the Yigrong had cut through and found it to be 350 feet. The mass flowed some 3 or 4 miles from the hills and was moving altogether for about an hour. The end of the slip can be distinctly seen in the form of a low bank a mile from the right bank of the Yigrong. The slip was littered with boulders larger than any on the ground beyond, which had not been covered by the slip. The vegetation was also distinctive, being young trees, all of about the same size. At this time the earth and stones were so hot that people could not walk on them in bare feet. Three villages on the left bank of the Yigrong and two on the right were buried and the inhabitants killed. The inhabitants of the buried villages on the left bank were cheerfully occupied in smelting iron. The mass dammed up the Yigrong and a large lake was formed above the dam, several villages being buried under the lake. After one month and three days the top of the dam broke and the river went down the valley in a wave which destroyed several villages. At one point lower down the valley we found the site of a village which had been carried away by the flood and which was 170 feet above the present level of the river. At the time of our visit the Tralung had cut about 50 feet through the debris and the Yigrong about 350 feet. A good deal of the land which was under the lake was recovered when the dam broke, but the people say that a lot of their best land is under the water, though the lake is, they think, getting smaller; dead trees can be seen coming out of the water round the edges.

The lake is now about 10 miles long by ¾ of a mile wide. One effect of this flood was that some of the people were driven to find land elsewhere and settled for some time in Chindro and later went into the Mishmi Hills.

CHAPTER II.

QUESTION OF FALLS, LOWER KONGBO AND THE ATTEMPT TO REACH THE BEND OF THE TSANGPO.

It was our intention to follow up the Tsangpo from Pemakö as far as possible and we hoped to be able to push right through to Kongbo up the valley. When we reached Lagung, however, we were met by a Poba official, Nyerpa Namgye, who wished to take us into Po me. We heard that there was a road up as far as Gompo ne, the junction of the Po Tsangpo, and the Tsangpo and as far as physical difficulties were concerned, we could have gone at least up to that point, but we feared that if we defied the Nyerpa and insisted in going up the valley not only would we not be able to visit Po me, a country about which very little was known, but we might be turned out of the country by having our supplies cut off. We also hoped that by making friends with the Pobas we might obtain their assistance in coming down the Po Tsangpo to Gompo ne and in following the Tsangpo to Lagung from there. To have insisted on going up from Lagung would have risked our chance of seeing Po me, of making friends with the people, and of obtaining their assistance in our attempt to follow the river. Unfortunately, on reaching Trulung we found that the rope bridges on the Po Tsangpo, which are carried away every summer, had already gone, and we could not reach Gompo ne. We, however, obtained an estimate of the height at Gompo ne of 5,700 feet from measuring the average fall on the Po Tsangpo. The Sü La by which we crossed into Po me is closed by snow in winter and the only road at that season is up the valley to Gompo ne; consequently we met many people, including our friend the Nyerpa, who knew this part of the river well, and all agreed in saying that there was nothing in the way of falls on it, though there are extraordinary whirlpools and rapids at Gompo ne itself. After travelling through Po me we again reached the river at Pe where it flows quite smoothly and followed down the right bank to Pemaköchung. Rapids commence some two miles below the ferry at Pe and these continue for about 16 miles, to about $1\frac{1}{2}$ miles above Gyala at which point the river is flowing between cliffs about 40 feet in height. Here we could see the high flood marks on the banks which were about 20 feet above the water level. We were told that the river is at its highest in October and that this year it was unusually low. In a normal year the road from Gyala to Pemaköchung, which for some distance follows the river bed, would have been impassable at the end of July, the time of our journey. With the exception of one small rapid caused by the silt brought down by the Kenta Chu and deposited in a bar across the Tsangpo, this still stretch of the river lasts for about 8 miles. About $1\frac{1}{2}$ miles below Sengdam the rapids again commence and continue uninterruptedly for some twenty miles to Pemaköchung Gompo. One mile before reaching the *Gompo* a road leads down to the fall which Kinthup described. A good view of this is obtained from a rock about 100 feet above the water. The river is here rushing through a gorge about 50 yards in width in which it drops suddenly some thirty feet, but the drop is not vertical. It was impossible to do more than estimate this fall. Spray in which rainbows are seen is sent up fifty feet into the air at this point. It is possible to go down to the river level at the top of this fall, but in summer it is impossible to reach the foot of the fall. From this point the rapids on the river continue, with one small section of smooth water which is followed by a fiercer rapid, as far as we were able to follow the river. As described in the diary for 30th July, I was turned back in an attempt to go down the gorge by a cliff. I was only accompanied by one coolie at this time, but a larger and better equipped party could cross this cliff and follow the road to Payü which crosses the spur which runs north towards the Po Tsangpo confluence. This spur was flat, with a hill at its northern end, and thickly wooded and it appeared to be quite possible to cut a way down this to the loop of the river near Gompo ne. The Mönbas who deserted me at this cliff were returning to Payü by a pass which crossed this spur. Captain Morshead in his report has given a table of the altitudes and distances on this part of the river. The portion between Gompo ne and Lagung is well known to the local people, who all state that there are no falls. The portion below the lowest point I was able to reach and Gompo ne is not known as there are no roads there, but hunters whom I questioned told me that there was nothing remarkable in the portions of the river that they had seen about there. At Gompo ne the Po Tsangpo is said to

join the Tsangpo in an extraordinary turmoil of waters. With the exception of the small *Gompas* at Pemaköchung and Sengdam the country is quite uninhabited between Gyala and Payü. Gyala is the seat of a small official styled *Depa* and there is a fair-sized village on the right bank. Here there is a ferry and a rope bridge. The ferry boat had been carried downstream at the time of our journey; we were obliged to cross by the bridge. On the left bank is Gyala *Gompa* and a stream, behind a fall of which a god Shinge Chögve is said to be tied. Sengdam on the left bank of the Tsangpo consists of three houses and two white-washed temples on some flats at the side of a stream which issues from three glaciers which emanate from the Gyala Peri range. Sengdam must be about a thousand feet above the river and below it in some cliffs over the river bank are some huts called Götsang Drupu, a place of pilgrimage, where a single monk remains all the year round to look after the altars. At Pemaköchung there is a *Gompa* with about half a dozen monks with their wives and one family who live by keeping *dzos* (half-breed yaks). These people nearly all leave in the winter when a great deal of snow falls. On the right bank of the river at Kinthup's fall are two tunnels in the rock to go through which is an act of some merit. This pilgrimage is performed on the 15th day of the third month (the middle of April) each year. The pilgrims, who usually number about 50, come down from Gyala, arriving the day before the full moon, and the next day descend to the river, where they crawl through these two tunnels and return the same day. It is not a very important pilgrimage, and people do not usually come from great distances for it. The river is at its lowest in April and at the time of our visit the lower end of the second tunnel was under water and we were unable to pass through, but I succeeded in going through one of the tunnels. Except on the occasion of this pilgrimage the road down to the river is never used and we found both this and the road from Gyala to Pemaköchung very much overgrown and almost obliterated in places. Opposite Gyala on the left bank of the river is Gyala *Gompa* and the holy waterfall behind which a god or demon, Shinge Chögye, is supposed to be chained. Two or three hundred pilgrims visit this spot each year. They come in the middle of the fourth month (May), by which time the snow has all melted. We visited this spot. The stream comes down in an extraordinary manner between cliffs and caves. The actual fall is about 30 feet high across, which was stretched a chain on which bells were hung. There is a smaller fall on the right. The pilgrims stand on a platform opposite the fall and gaze through the water at the rock behind. On this is seen the god which, as far as we could make out, must be painted or carved in a cave behind the fall; at the time of our visit the stream was too big for us to see anything through the water. On the platform on which the pilgrims stand is a wall with pigeonholes in which the pilgrims burn butter lamps. Some people never see the god at all, others after giving money and burning lamps for several days, while others see him at once. He appears in different colours to different people. Mention may here be made of the glaciers which come from Namcha Barwa and Gyala Peri which are described in Chapter XIX. One of these, the Sanglung glacier, comes down to 9,030 feet above sea level just south of latitude 29° 45'. These two peaks are 25,445 and 23,463 feet in height and the distance between them 14 miles in a straight line. In the interval the Tsangpo flows at an altitude of about 9,000 feet. At Gyala unirrigated crops of buckwheat and barley were growing and were being destroyed by the drought. At Pemaköchung crops are not grown.

CHAPTER III.

KONGBO, TAKPO AND THE TSANGPO VALLEY.

1. *Kongbo*.—The southern frontiers of Kongbo have been described in Chapter IX where they border on Po me and also where they follow the main Himalyan range. The boundary between Kongbo and Takpo, the adjoining province to the west, crosses the Tsangpo at a small stream called Kong Chung Rakar which flows into the Tsangpo just upstream of the She Chu. The line must run down from the main range through the Lang La spur but as the hills are uninhabited the exact line is undetermined. Kongbo is divided into four districts under Dzongpöns; these are Tsela (the largest), Chomo, one day's march from Tsela, Shoga four days' march from Tsela, and Gianda seven

days from Tsela; all are up the Gianda Chu valley. Tsela Dzong is also called Tsela Gang Dzong, especially in correspondence. We saw a good deal of the Tsela Dzongpön, who gave us some details of the administration of his district, and who informed us that the other districts were administered on somewhat the same lines. His district comprises the Tsangpo valley from the Takpo frontier down to the Gama Taki spur below Pemaköchung. Under the Dzongpön are 16 small officials called *Gesi*; of these 11 are rather more important and are styled *Depa*. These are Gyala, Temo, Chamna, Gegor, Trashi Rapden, Kangsar, Sengpo, Tü, Orong, Gacha and Changtrong; with the exception of Gegor and Changtrong we met all of these people. The other five who are not called *Depas* are (1) Pedo, an abbreviation for Pe Doshong which includes the villages near Pe, (2) Wotang on the Gyamda Chu, (3) Karma, a village half a mile from Tsela, (4) Kucha, some villages on the right bank of the Tsangpo opposite Sengpo, and (5) Chitrung Wopa which comprises the villages round Lunang. The first four of the above appointments are at present in the hands of the Dzongpön himself, while the fifth is held by a monk sent from Temo *Gompa*.

We spent a night as the guests of the *Depa* of Gacha, from whom we got the following details of the taxes he collected from the people of a hundred villages, which were under him as the Agent of the Lhalu family. The Lhalu family receives annually 3 mules, 5 *dotse* (1 *dotse* = about Rs. 83 at the present rate of exchange) and 800 *ke* of butter (1 *ke* = about 5 lbs.). The Lhasa Government received 8 *dotses* and 1,000 *ke* of butter, while the *Depa* himself receives 20 loads of *tsampa* (parched barley flour) a year.

The men of Kongbo wear their hair in two queues which are crossed behind and fastened on the top of the head. The language is much nearer to Lhasa Tibetan than that of Kham or Po me. The chief difference is that "Tr" is frequently pronounced "P" which is a nearer approach to the spelling, e.g., "Trau", buckwheat, is pronounced "Pau". Several centuries ago the province of Kongbo was independent of Lhasa and the people used to fight among themselves; it was at this time that the fortified towers, of which there are ruins in most villages, were built. These towers resemble those on the road between Tachienlu and Batang which are mentioned by R. F. Johnston in "Peking to Mandalay", page 169. About two centuries ago there was a war against a people called "Chonga" or Jungar whom Colonel Waddell, in "Lhasa and its Mysteries", Appendix V, states were Elleuth Tartars. These people overran Kongbo and destroyed the villages of which the ruins stand to this day. At Sanga Chöling we were told that this happened during the time of the fifth Dalai Lama and that the Tartars pillaged the *Gompa*. Seven of them entered the temple in which was the principal image of Buddha, which one man cut with his sword. The marauders at once fell down and died, blood coming out of their mouths, while the cut on the idol healed of itself as it would on a human being.

2. *Takpo*.—The next province to Kongbo up the Tsangpo is Takpo. In this there are four dzongs under the Lhasa Government: Kyimdong, Guru Namgye, Gyatsa and Lhapsö; a fifth, Nang Dzong, is the private property of Yabshi, one of the important Lhasa families. At the Putrang La we crossed from Takpo into Ü, the province in which Lhasa is situated.

3. *The Tsangpo valley*.—The Tsangpo valley in Kongbo and Takpo is very fertile, the fields being irrigated as the rainfall is insufficient. The chief crops are barley, wheat, peas, buckwheat, mustard, with a few beans and a little hemp. The barley is harvested in a peculiar way; it is pulled up by the roots or cut with a sickle and dried in sheaves; a strong iron fork in a wooden frame is then fixed on the ground on the points of which a man strikes the sheaves and pulls the heads off with the fork; the heads fall into a trough which is placed ready to receive them. Buckwheat does not grow much above Gacha though we saw a poor crop at Lhagvari at an altitude of over 13,000 feet. Peach trees are grown everywhere in the villages and we also found a few small apple trees. In some villages bamboos and vines were growing; the grapes are eaten in October. The valley is famous for pony and mule-breeding and our riding animals would frequently be followed by foals. For transport we were usually provided with bullocks, which travel very slowly. There are also large flocks of sheep and goats and some pigs. The houses are of stone or mud and, as far up as Kyimdong, have wooden pent roofs; above this place the usual flat mud roofs are built. The rainfall of the Tsangpo valley

itself is slight, but up the few cultivated valleys to the south it is heavier and here again are pent roofs and in some cases unirrigated fields. There was quite thick forest up the few valleys up which we could see any distance, and on the Kongbo Nga La a pass some distance north of the Tsangpo we touched this damper tract of country and found forest of larch and birch with a few scattered rhododendrons.

From Tsetang downwards the river flows quite gently as far as Trap; below this it enters a gorge down which there is no road in summer. In this gorge the river is said to flow down in rapids with a few stretches of still water. There are two villages, in the gorge, Genden and Lungbunang; near the latter there is a fall in the river of about six feet. There is drop in the river of about 1,200 feet between Trap and Lenda, the next point down stream at which we read our aneroids. There is a difficult road in winter down this gorge, by which the distance from Trap to Shetruling, the village below the gorge, is covered in about four days. From Lenda to Lu there are no serious rapids. Here again the river passes through a gorge where there are rapids, but the road only leaves the river for one day's march and there is no great drop in the water level. From Nge, where the road rejoins the river, downwards there are several rapids and the river flows swiftly. Especially did we notice rapids above Tro me and near Gacha and Tü. Near Tro me the river flows through a gorge in which there are very few villages. Here the hills are bare below with a few cypress or juniper trees; above this is a belt of prickly oak, above which again is fir forest. The forest comes down much lower on the south bank than on the north. They have very little snow in the valley here, but on the hills it lies 4 feet deep in winter. Above this gorge the valley is dryer than below and the forest much more scanty. Below Tü the river flows slowly and peacefully with many sandy islands in mid-stream until the fierce rapids commence below Pe.

The hills on the river banks in lower Kongbo are well wooded but there is a great contrast between the north and south banks. The trees on the south bank are pines and the jungle altogether heavier, while on the north bank the vegetation is of a much dryer type though there are pines higher up the hillsides. There are two large *gompas* in lower Kongbo; one on the south bank is called Temo Chamna or more briefly Chamna, while that on the north is called Temo Chamkar or simply Temo. These names mean black and white Temo and are given on account of the appearance of the hills, the south bank being clothed in dark pine forest. This is no doubt caused by the sun quickly melting any moisture which falls on the north bank, but also it appears that the rainfall is greater on the south bank. We ourselves saw several showers of rain falling on the opposite side of the valley while we were having fine weather and heavy rain was falling up all the long valleys which join the south bank. A good deal of snow falls in this part of the valley in winter but that on the north bank quickly melts. They also complain of strong winds in winter and in places we saw high sand dunes which must be caused by this.

The following are the most important *Gompas* in the valley:—

Temo (250 monks), Trashi Rapden (130). Chamna (250), Pari Chöte (200), Ganden Rapden (130) monks. Tsela Dzöng is an important place as the official rules the country from Pemaköchung to the Takpo frontier. Orong and Gacha are two important estates of the Shatra Lörchen and Lhalu respectively. The 4 Dzongs of Takpo, namely Kyimdong, Guru Namgye, Gyatsa and Lhapsö, are in the valley. The birthplace of the present Delai Lama, called Trung Kang, where there is a fine temple, is a place of interest. Lhagyari is the seat of a wealthy and semi-independent family of importance, which, among other possessions, owns the gold which is washed from the streams near the Pu La. The head of the family is called "king" in Tibetan. The family consisted of 3 brothers, the eldest of whom was the chief, the second a well-known officer with the army who was killed in the fighting with the Chinese, while the third is at present the incarnate Lama of Tawang Gompa. The chief died in 1912 and the family now consists of his three children, two boys aged 13 and 10 and a girl of 12. The girl came to see us at Lhagyari and spent the afternoon looking at photographs. We offered to call on the boys but excuses were made to prevent us.

Tsetang is a large and important town the population of which was estimated at 3,000 by the head Ladaki. There are two *Gompas* containing 140 and 100

monks respectively. The people are under the Dzungpön of Netong, a town $1\frac{1}{2}$ miles distant. There are about 50 Ladakis including women and children. The valley of the Yarlung joins the Tsangpo at Tsetang and is rich and well irrigated and cultivated in its lower reaches.

East of the Yartö Tra La and up to Lhakong plain the country is very elevated and yields poor crops but is good for grazing. In this neighbourhood alluvial gold is found.

CHAPTER IV.

TSARI.

The small tract of Tsari consists of the upper valleys of several branches of the Subansiri. In this tract are several snow peaks, one known as Takpa Shiri being of great sanctity. The whole district is considered so holy that no animals of any kind may be killed and the ground may not be tilled but, in spite of this, the people grow a few vegetables round their houses though there are no regular crops. Kinthup says of Tsari—"The soil yields no kind of produce". The village of Migyitün, which is down the Tsari Chu and the lowest Tibetan village in the valley, is considered to be outside the sacred area, and crops are grown and animals may be killed. The most striking thing about this district is the climate. To the south are the valleys of the Char and Chayul, both very dry with irrigated crops and flat mud roofs to the houses. To the north is the valley of the Tsangpo, which is similarly dry, while the Tsari valley is extremely wet. During the ten days which we spent in this region it rained every day and dense clouds hid the hills, so that we never had a view of the holy peak. The houses have pent roofs of shingles and the scanty crops of vegetables require no artificial irrigation. The vegetation also is quite different from that of the dry valleys, consisting of plants similar in appearance to those of upper Sikkim—rhododendron, birch, and forests of fir trees. The people pay no taxes except a small tax of butter which is sent to the Guru Namgye Dzungpön, who nominally administers the district; these law-abiding people give him little trouble, and we were told that no crime serious enough to be referred to him had been committed within the memory of the oldest inhabitant. Their obligations to the Tibetan Government consist in their duty to supply all pilgrims free of charge with fuel and hot water at each of the rest houses on the pilgrim route, and in their having to supply transport coolies for Tibetan officials when performing the pilgrimage. The inhabitants of Migyitün pay the ordinary taxes, and these unfortunate people pay to three different places, to Kyimdong and Guru Namgye Dzongs and to Sanga Chöling Gempa; besides this they pay a tax of 144 goats a year to the Lopas who live 6 days' journey down the valley. As the people of Tsari (apart from Migyitün) grow no crops they are obliged to buy their food, and spend the whole winter when the pilgrim road is closed in travelling about the country collecting food and, in distant places, other articles such as ponies, swords or money with which they purchase food from the cultivated valleys near Tsari. They particularly beg a great deal in Po me and in the vicinity of Tawang.

2. *Long pilgrimage.*—Two important pilgrimages are performed at Tsari. The longest is named the *Ringkor* and is only undertaken every twelfth year, in the "Monkey" year. The next year of this pilgrimage will be 1920. The pilgrims are said to number a hundred thousand, which is almost certainly an exaggeration, and start on the 15th day of 1st month, a day of full moon about the beginning of March. They are accompanied by 100 soldiers from Po me, 50 from Trasum, a village near Shoga Dzung in Kongbo, and 50 from Trön on the Chayul River; these soldiers act as guides and help the pilgrims by building the many bridges which are necessary. The Tibetan Government bribes the Lopas who live near the pilgrim road with *tsampa*, swords, salt, etc., in order that the pilgrims may not be molested, in spite of which they steal from the pilgrims and occasionally capture them and enslave them. From their description these Lopas are probably Abors. The pilgrims go about 6 days down the Tsari Chu, when they reach its junction with the combined waters of the Char and Chayul. The road does not actually go to the junction but crosses the high spur between the rivers from the top of which the mountains of Pemakö are said to be visible. The road then goes some 8 or

10 days up the Char-Chayul, when the junction of the Yü me stream is reached. Most of the pilgrims go up this to Yü me and finish the pilgrimage along the road of the short pilgrimage *via* the Rip La to Chösam (see paragraph 3). Others continue up the river four days' march to Lung, whence they go to Sanga Chöling. Those who finish the pilgrimage quickly take about 20 days but others travelling slowly take as much as two months. No food is to be obtained on the road but traders from different parts of Tibet come to Migytün, where they sell food at about double the ordinary rates. During the last pilgrimage in 1908 we were told that several of the pilgrims of higher rank carried automatic pistols as a protection against the Lopas: these are much in demand as the pilgrims cannot carry very much and it is necessary to be armed. This pilgrimage supplies the only evidence regarding the ultimate direction of the flow of the Char-Chayul and Tsari rivers.

3. *Short pilgrimage.*—In addition to the long Tsari pilgrimage there is a shorter one which is performed during the summer months every year. This is called the *Kingkor*. The route was followed and is described in the diary for the 13th and from the 17th to 20th of September. On the road there are the following rest houses (called *Tsukang* in Tibetan): Chösam, (14,200 feet), Totsen, Chikchar, (12,700) Lapu (14,800), Mipa (15,300), Tama La (14,400), Potrang (14,700), Taktsang (13,200), Tomtsang (12,600), Chaktatrang (14,100), Simoneri (13,500), Yü me (11,800), Gompo Rong (12,500), Yü to (13,200), Rip La. In addition to the rest house there are villages at Chösam, Totsen, Chikchar, Yü me, and Yü tö. Totsen and Chikchar form the eastern half of Tsari and the other three villages the western portion. It is the duty of the inhabitants to maintain a man at each rest house who is bound to supply pilgrims with hot water and fuel. From Totsen to Potrang this duty is performed by the people of east Tsari while from Potrang to Chösam by those of west Tsari. At Potrang itself there are two rest houses, one provided by each portion of the district. In the same way officials who are entitled to *Ula* or free transport are provided with coolies up to Potrang by the eastern and from there on by the western portion. On the 19th day of the 3rd month (about the end of April) in each year, a number of pilgrims, usually about two thousand, do the pilgrimage in circumstances of great hardship and over deep snow. To perform this is a most meritorious act. The pilgrim road then closes until the 1st of the 5th month (the beginning of June), by which time most of the snow has melted, when the rest houses are reoccupied and there is a continuous stream of pilgrims until the 15th day of the 8th month (the middle of October), when the rest houses are deserted and the pilgrims cease to come. Before leaving the rest houses in October quantities of firewood are collected and stacked for the use of the pilgrims who do the pilgrimage over the snow in April. The reason for stopping the pilgrim traffic in October, long before sufficient snow has fallen to make the road impassable, is that a small white maggot appears in countless numbers on the road, and, were one of these to be accidentally killed by a pilgrim, the merit derived from the journey would be cancelled. The pilgrims erect piles of stones along the road, especially on the ascents to the passes. They have also carved sacred writings on the stone walls of the rest houses. About the time that the pilgrimage ceases the rivers are at their lowest and parties of Lopa hunters are occasionally seen in the wooded valleys who no doubt remain in the valleys until the snow drives them down again. No women are allowed to cross either the Drölma La or the Shangu La but there is a short pilgrimage which they may perform near Chikchar and another from Totsen to Chaktatrang whence they follow the main pilgrim road *via* Yü me to Chösam. On the 15th day of 8th month when the pilgrim road is closed all women are obliged to leave Chikchar where there are several holy temples; they live during the winter at Yarap on the opposite bank of the river. The Tsari pilgrimage is a circuit round a holy mountain called Takpa Shiri which is in some religious way connected with a peak of the same name on the range south of Chayul Dzong. We did not see Takpa Shiri on account of clouds, but occasionally caught a glimpse of the lower snow fields of the mountain. The present Delai Lama performed this pilgrimage in 1900. Kintshup also travelled along the pilgrim road and mentions a legend explaining why women are not allowed to cross the passes, about which however the people whom we questioned knew nothing. As no animals may be killed in the district we were rather surprised to see no game

and very little signs of animal life at all except in the main Tsari valley. Sir Joseph Hooker mentions this peculiarity in northern Sikkim which he attributes to the "moist cold atmosphere". In the Tsari valley we saw stags, bharal and musk deer, and we also noticed stags at Simoneri. There was at first some question as to whether I should be allowed to perform the circuit, but as I had shot a stag on the holy ground in ignorance it was suggested that the penance of the pilgrimage might efface this sin.

CHAPTER V.

CHAR AND CHAYUL VALLEYS, TSÖNA AND THE UPPER NYAMJANG VALLEY.

West and south-west of Tsari are three well-populated valleys, the Char, Nye and Chayul¹, which are branches of the Subansiri. These valleys are very dry but, curiously enough, the vegetation near Bung in the Char valley (rhododendron, birch, willow and fir trees,) gives signs of a damper climate than at Sanga Chöling a few miles lower down stream. In these valleys are two Dzongs, Lhöntse and Chayul, the former being to some extent subordinate to the latter. The important lamasery of Sanga Chöling, in which the very sacred incarnation known as Drukpa Rinpoche resides with several smaller incarnations, is situated in the lower Char valley. We found that in Char Tö the people were very isolated as no main roads pass through the valley and they seldom see other Tibetans. We followed these rivers down to the last Tibetan villages after which the valleys become much steeper and more wooded.

In its upper reaches the Chayul Chu is called the Loro; higher up still this divides into two branches, the Loro Nakpo and Loro Karpo valleys. The names mean the black and white Loro and are given on account of the colour of the water; that from the white Loro is quite clear while that of the black Loro is very dirty and evidently comes from snows or glaciers and is slightly the larger of the two. The Nye valley branches into two at Ritang, the branches being called the Sömpü and the Sikung. West of these sources of the Subansiri is the elevated tract of country in which is situated the important Dzong and Trade Mart of Tsöna at an altitude of 14,500 feet. The country here is devoid of any but the scantiest of vegetation though poor crops of barley can be grown. To the west of this tract is the upper portion of the Nyamjang valley which as far down as Rang village is inhabited by Tibetans and not by Mönbas, though the Tibetans of Rang itself bore a great resemblance to Mönbas in their dress and language. In this valley is the Dzong of Dongkar which is subordinate to Tsöna. Just below Dongkar thick forest commences and below Rang the Tibetan inhabitants give place to Mönbas.

CHAPTER VI.

MAGO.

Wedged in between Mönnyul and the Lopa country is the quaint and isolated little district of Mago. This is the property of Samdra Potrang, one of the big Lhasa families, who keeps an agent, the Kishung Depa, at Kishung in the Loro valley, who collects taxes from the people. This man did his best to dissuade us from entering this country, and on our arrival there we found it difficult to get the people to supply transport as the district is seldom visited by officials and they are not accustomed to do so. The country is wooded and damp. The houses are of wood and stone with pent roofs of shingles, or, in some cases, of slate. They grow no crops but keep yaks in the upper parts of the valleys; the produce of these animals is exchanged with Mönbas and Lopas (Daffas) for cereals and madder dye in which, together with planks which they cut in the forest, they pay taxes to the Kishung Depa. Mago is 11,800 feet in altitude and is under snow in winter. Most of the people live on the hills with their yaks in summer and return to the villages from the end of December to the end of May, during which period the grazing grounds are under deep snow. There are three villages—Mago (divided into two halves called Nyuri and Duri), Lugutang and Lagam.

The total population is only about two hundred and is, they say, decreasing. The people are quite illiterate. A monk comes over from Karta in the Loro Nakpo valley to read prayers in their only temple and to scare away the devils. This was the only portion of our journey on which we were unable to get the place-names written in the Tibetan character. The dress of these people is quite distinctive. The men wear red *chubas* (long Tibetan coats) and carry their swords slung behind the back while other Tibetans carry it in front. They let their hair grow long and do not tie it in any way. They wear a curious skull cap of felt with fringes or tassels round the rim somewhat similar to that worn by Mönbas. The women wear a short skirt of woollen cloth in broad red and blue longitudinal stripes under which they wear knickerbockers. They wear a great deal of jewelry; a silver plate is worn on the top of the head to which are fastened strings of large amber heads which come down in front of the ears to the waist where they are fastened to an ornamented brass belt; long cornelians, which hang over the forehead, are also fastened to the silver plate. They wear a cap of the same pattern as that worn by the men. The people speak Tibetan among themselves though in a curious dialect. They call themselves Tibetans but speak of "going to Tibet". They are in appearance more like Mönbas than Tibetans and their wooded country is similar to Mönnyul and quite unlike the dry Tibetan valleys to the north. The district ought physically to form a part of Mönnyul but is actually the private property of one of the Lhasa nobility. The people carry their water in wicker baskets which are lined with rubber which they obtain from Mönbas. They exchange cheese and butter and planks with Tibetans for salt and food grains. The Mönbas bring up chillies and red madder dye which they exchange for salt and dairy produce. The people of Nyuri and Duri pay to the Kishung Depa, the agent of Somdru Pctrang, two loads of butter a year and each of the 15 houses in these two villages pays two or three loads of madder; one load of this was sold to the transport drivers who had brought us from Cha for 5 tankas (Rs. 1-4-0). To the Mönbas they pay a tax about 7 lbs. of salt and about 20 lbs. of cheese annually, some of which is passed on to the Akas. Lops (probably Daffas) come to Mago to trade, crossing the Namsanga La and bringing madder, chillies and maize, which they exchange for salt.

CHAPTER VII.

MÖNNYUL.

Mönnyul is the comparatively low-lying district of Tibet which is governed by the Lamas of Tawang. It consists of the valley of the Tawang Chu down to the Bhutan frontier, the Nyamjang valley as far up as Trimo, and the Dirang valley as far down as the Aka frontier at Konia, as well as some valleys south of this down to the plains of India. The Mönbas are distinct in many ways from the Tibetans. Tibetans as a rule do not live below 10,000 feet and prefer higher altitudes, whereas the Mönbas live at altitudes between 4,000 and 10,000 feet above which height in the Nyamjang valley we found Tibetans. Their language is distinct from Tibetan though they have many Tibetan words; they say that their language is nearer to Bhutanese as spoken in eastern Bhutan than to Tibetan. We usually found one or two people in the Mönba villages who could speak Tibetan and near Dirang some who could speak Assamese; at Le and Trimo the people all spoke Tibetan well. The men cut their hair short and do not wear a queue. They are all dressed in a *chuba* of woollen cloth dyed red with madder, under which they wear a cotton garment like a *dhoti*. They wear a hat of felt made from yaks hair. The women in the lower valleys wear cotton and Assam silk but higher up, above 7,000 feet, woollen clothes. Many Mönba men have a curious round pad hanging down from the waist behind, on which they sit. At Le and Trimo in the upper part of the Nyamjang valley the Mönbas wore undyed woollen clothes and were much more like Tibetans in appearance. These people also had a curious custom of winding a single peacock feather round their felt hats and the women wore curious earrings; a flat piece of bamboo, 6 inches long, had red beads or turquoises fixed on to it with sealing wax and hung from the ears. These Mönbas also wear a large piece of amber on a string round the neck. We found the people to be excellent carriers and much better than the ordinary Tibetan at this work, but we usually had a good deal of difficulty in getting coolies at all

in spite of our having a Tawang passport. We were usually well received in the Mönba villages; the people had cushions for us to sit on, in front of each of which was a small table on which a plantain leaf was laid as a table cloth, a fire burnt in the middle of the room, on which we cooked corn cobs while they mixed us a brew of *marwa* beer during the long delays when we were obliged to wait for fresh transport. Sometimes they would come out to meet us, bearing sticks of burning incense which were fixed in front of us when we sat down, and which were carried before us when we departed. Their houses are usually of stone, but sometimes of wood, with a roof of bamboo matting. Their crops are maize, chillies, pumpkin, buckwheat, *marwa* and various other cereals, rice, tobacco and tall beans grown on sticks; a little wheat and barley is grown at the higher altitudes. They also grow peach trees, on which we found excellent fruit.

2. *Administration*.—The district is governed by a council of six named *Trukdri*. They are, the *Kenpo* or Abbot of Tawang Gompa, another lama in a high position, two monks known as *Nyetsangs* who correspond to the *Chandzos* or Stewards in Tibetan *Gompas* and the two *Tsöna Dzongpöns*. In this way the *Tsöna Dzongpöns* have a hand in the Government of Mön-yul. In the summer when the *Dzongpöns* are at *Tsöna* they keep agents at Tawang to act for them but from November to April they themselves live at Tawang and send their agents to live in the cold climate of *Tsöna*. Under the *Trukdri* are two *Dzo: gs*, *Dirang* and *Taklung*, each of which is held by two monks sent from Tawang who act together. The *Dzongpöns* of *Taklung* live at *Amratala* on the Assam border in grass huts during the trading season.

The Mönbas did not strike us as being so religious as the Tibetans; they have their large *Gompa* at Tawang and also one at *Dirang*; but do not have small *Gompas* scattered over the country as in Tibet. Water-turned prayer wheels are very common in the country, each housed in a substantial whitewashed temple. Astride the road also are numbers of well-built shrines called *Kakaling*, on the ceiling of which are sacred pictures. Both in the nature of the country they inhabit, their customs, language, dress and method of building, the Mönbas are very distinct from the Tibetans, and resemble more the inhabitants of Bhutan and Sikkim. Their country is low lying and well wooded and their villages large and prosperous. The forest is not nearly so thick as that in Sikkim or in the valleys of the *Dihang* and *Dibang* further west and a good deal of the country, especially that on the slopes facing south, was very open or covered with thin forest of oak. Tawang itself is prettily situated on a grassy spur and in the neighbourhood is a good deal of open country densely wooded in the bottoms of the valleys.

CHAPTER VIII.

BHUTAN.

We completed our journey by passing through a small corner of Bhutan. Here we were extremely well received, especially by the *Trashigang Dzongpön* who had previously met Mr. White in 1906 at *Trashi Yangsi*. The country was well wooded and cultivated with the usual Himalayan crops, including cotton and rice; some wheat and barley is also grown. Two crops are grown each year. In the low valleys bent twigs covered with the lac insect were being hung on the trees in November. Various fruit trees grow round the villages, among them plantain, apple, orange, lemon and pomegranate. The women usually cut their hair short but we saw some who grew it long and tied over it a band of silver and turquoise, an old custom which we were told was dying out. They fasten their dresses with two enormous pins, one at each shoulder, which are usually joined by a silver chain fastened to a large ring in each pin. The men's clothes are similar to those of western Bhutan and quite different to the Mönba dress. There is a good deal of goitre in this part of Bhutan and also in the Tawang Chu valley in Mön-yul. The walls of the houses are of stone and wood, or stone and wattle and daub between wooden beams; the roofs are of bamboo matting. The houses of the villages are usually very scattered. The people burn their dead and do not give them to the birds as is done in Tibet.

The people of Bhutan are divided into the following clans according to the dialect they speak :—

<i>Clan.</i>			<i>Districts.</i>
Tsingmi (Chingmi)	..	..	Trashigang and Shonga.
Dzala	..	..	Yangsi.
Kur Töba	..	..	Lingtsi.
Pungtangba	..	..	Gyagar (Byagha).
Mangdiba	..	..	Tongsa.
Shar Tso Shi	..	..	Ongduphodang.
Te Ba	..	..	Punakha.
Wang	..	..	Thimbu.
Paro Ba	..	..	Paro and Truji.
Ha Wa	..	..	Ha.
Kengri Namsum	..	..	Shamgong.

CHAPTER IX.

FRONTIER.

1. *Frontier of Po Yul.*—Commencing from the range west of Shiuden Gompa, through which the Nagong Chu breaks, the frontier runs along the watershed between the Rong tö Chu and the Nagong Chu to the Kangri Karpo La, a pass which is at the sources of the Chimdro Chu and the Rong tö Chu. It then follows the northern watershed of the Dibang basin, which it leaves at some point and crosses the Tsangpo below Jido which is the lowest Poba village in the Tsangpo valley. From here it runs up some spur to the range south of the Tsangpo, striking it in the neighbourhood of peak 16,581 (formerly numbered 16,834). We were unable to obtain accurate information regarding the frontier in the Tsangpo valley, but the Pobas made a great point of the fact that their official residence which they call Kala Yong Dzong and which they say is near Jido was their frontier village. This is probably Nyerang, though we never heard that name in Po me. South-west of peak 16,581 is a pass, the Lamdo La, by which Lopas (Abors) come into Kongbo to trade. The people of Kongbo who knew these Abors said that they were independent of Po me; consequently we place the frontier of Po me on the range north-east of the Lamdo La. Our information regarding the frontier in the Tsangpo valley is uncertain, as we did not go down far enough, but the Abor Survey party should have definite information. The line follows the mountain range north-east, passing the Tamnyen and Doshong passes to Namcha Barwa. It then descends the spur which runs down east of the Sanglung Glacier to the Tsangpo; this spur is named Gyama Taki. From here we have no information until we find the frontier at the bridge over the Rong Chu $2\frac{1}{2}$ miles north of Lunang, but the frontier must cross the Tsangpo opposite the Gyama Taki spur and follow the range on which Gyala Peri is situated. From the bridge over the Rong Chu the frontier appears to run up a spur to the range dividing the Rong Chu from the Giamda Chu basin, on which range we find it at the Nampu La. The next place about which we have information is the village of Nyun on the Yigrong Tsangpo. Half of this village belongs to Po me and half to Lhasa. From here the line runs along the snowy range south of A. K.'s route. He says "The nomads of Potodh, the tract across the snowy range to the south of our route, sometimes rob travellers". The line gradually bends southwards lying to the south and west of A. K.'s road until it reaches the point on the Nagong Chu near Shiuden Gompa. The northern and eastern frontier has been sketched in from hearsay evidence, but A. K.'s road gives a good idea as to how it runs. The valleys of the Po tö and Chong to rivers with their tributaries constitute Po tö the remainder of the country is Po me. The portion of the frontier from the Kangri Karpo La to peak 16,581 is conterminous with Mishmi and Abor tribes; the remainder of the frontier is conterminous with other districts of Tibet.

2. *Portion of the southern frontier of Tibet.*—The southern frontier of Tibet has been described above as far as peak 16,581. From this point it follows the main Himalayan range as far as peak 17,599 (formerly 18,056) which is above Migyitün village. From this peak to the Chupung La, some 40 miles to the south-west, several branches of the Subansiri break through the range and the description of the frontier is not so simple. On the Tsari Chu the lowest Tibetan village is Migyitün, the people of which said that the frontier was about two miles below their village. On the next two branches of the river shown on the map there are no permanently occupied Tibetan houses, but there are the rest houses of Mipa and Tama La in which Tibetans live for several months in the year who help the pilgrims (see Chapter IV, 3). In the same way on the next branch to the south-west, the Yü me Chu, the lowest permanently occupied village is Yü me but below this is Potrang rest house which is occupied in summer. The Tsari pilgrimage road passes through these rest houses and the people consider them to be in Tibet, though after the pilgrims have all returned Lopa hunters are said to come up and hunt game as far as the rest houses. The next branch of the Subansiri to break through the range is the Char on which the lowest Tibetan village is Drü ; Raprang village which is below this has been deserted since the war with the Lopas in 1906. In Appendix "H" of Mr. Kerwood's report on the Miri mission a Tibetan village Rang Rapa is mentioned which may possibly be the Lopa name for Raprang. The next branch which comes through the range is the Chayul, on which the lowest permanently occupied habitation is the temple of Karu Tra, where a single monk lives all the year round, and which pilgrims sometimes visit. Below the junction of the Char and the Chayul is Lung where the Lopas have a rest house and a few fields, but this place is not permanently occupied by them. These Lopas were defeated by the Tibetans in 1906 and pay a tax to Chayul Dzong. (See chapter XI, 3b). The line then again follows the Himalayan range from the Chupung La passing through Takpa Shiri (21,834 feet) to Gori Chen (21,464 feet). From this peak the frontier turns south and follows the spurs on which are the Namsanga, Pöshing and Gogyang passes which separate the tributaries of the Dirang Chu from the Bichom ; the line reaches the Dirang Chu just below Konia which is the lowest Tibetan village. From here down to the plains our information regarding the frontier is unreliable. From Pemakö to Gori Chen the frontier is the main Himalayan range except where several branches of the Subansiri break through the range. Partly on account of the low elevation and partly from the nature of the country, Tibetans do not live or travel down stream below these villages. The Lopas, who are scantily clothed savages, for similar reasons cannot live at a height which the Tibetans find too low. There is consequently a belt of uninhabited country 5 and 6 marches wide between the villages of the two peoples and it is unlikely that Tibetans will ever wish to occupy this land.

The main Himalayan range would appear to run west from Gori Chen through the Tulung La (17,250 feet) and thence through the Mila Katong La (14,210 feet) which Nain Singh crossed. Further west still the range which lies on the east bank of the Nvamjang Chu runs north and south. The part of this range which we saw near Tsöna consists of permanent snows, and this is probably the highest part of this range. The Nvamjang river between Pangchen and Gor flows in a deep narrow gorge as it breaks through the Himalayas, though it is difficult to say what becomes of the main range in this neighbourhood.

CHAPTER X.

RELATIONS BETWEEN POBAS AND OTHER TIBETANS.

In the neighbourhood of Temo we heard many complaints of the conduct of the Pobas in raiding and stealing cattle from the Tibetans of Kongbo. The Tibetans are not allowed to enter Po me and a guard is kept at the bridge near Tongkyuk Dzong to turn people back who have not permission to enter the country. The Pobas when returning to their country from Tibet proper, where they frequently go on pilgrimages or to trade, take advantage of this and when leaving Kongbo take any stray cattle or ponies that they can pick up. At the time when the Chinese entered Po me from Lunang they took with them 400 ponies from the vicinity of Temo and Lunang, all of which were either killed or captured by the Pobas. The people of Temo asked us if we could do anything to recover these animals.

The people of Tibet generally recognise the right of Poba officials to be provided with *ula* or free transport and supplies, and the inhabitants of Temo and Lunang said that this tax was very heavy on them and much more oppressive than the *ula* tax for their own Lhasa officials who comparatively seldom travelled in their neighbourhood. We found Pobas receiving this *ula* tax at Sanga Chöling. The Depa of Gyala gave us some interesting information regarding his relations with the Pobas. More than 100 years ago before there were Pobas in Pemakö the Lopas of that district used to come up the Tsangpo bringing up *dzos* (half-bred yaks) and iron, which they obtained from the Pobas, and taking back sulphur which is found above the right bank of the river near Kumang; later the Lopas refused to give anything in exchange for the sulphur and took it as a tax. About 100 years ago the Pobas conquered the Lopas and drove them southwards and took over their right to the sulphur tax. At present 14 bags are paid annually by the Gyala Depa to the Pobas, the payment being made some years in Tongkyuk and in other years at Gyala. The above is an example of how these taxes, which are paid either by or to the Tibetans all along this southern frontier, commence. The Dzongpön of Tsela collects a tax of about 5,000 lbs. of butter from the Pobas, which he sends to Lhasa for the use of the large *Gompas*.

CHAPTER XI.

RELATIONS BETWEEN TIBETANS AND LOPAS.

“Lopa” is the Tibetan name for all the savage tribesmen on the southern frontier. It includes Mishmis, Abors, Akas, Daflas, etc. It will be convenient to consider these southern neighbours of Tibet commencing from the east and working down towards the Aka frontier on the Dirang Chu.

The Miju Mishmis who inhabit the Lohit valley and who visit Rima are known to Tibetans as Nahong Lopas. We are not concerned with them in this report.

The Chulikatta Mishmis, whom the Tibetans call Trana Lopas, cross two passes into Tibet to trade; the easternmost is called by the Mishmis the Kaya pass at the head of the main Dibang valley and leads to a village called Alupu in the valley of the Rong tö Chu. The other pass is called by Mishmis the Aguaia, and is at the source of the Dri; this leads to Ruipu village also in the Rong tö Chu valley. Alupu and Ruipu are close to Sole village which is possibly identical with A. K.'s Sonling which, according to that explorer, is 37 miles from Rima. A. K. mentions (paragraph 231 of his report) that Lopas bring goods to Sonling which they exchange for salt. These Mishmis are not allowed to enter the Tibetan villages. The next point of contact between the Tibetans and the Lopas is at Mipi, the Khamba settlement in the Dibang valley which is referred to in Chapter I (4). Further west we have the Dihang valley; the relations between the inhabitants of this valley, called Pemakö, with the Abors are described in Chapter I (3). Further west again the following passes lead over the range from the Tsangpo valley in Kongbo into that of the Dihang or lower Tsangpo and its tributaries:—

- | | | | |
|--|-------|---|----------|
| 1. Nam La | .. | Leaving the Tsangpo valley in Kongbo at Kyikar. | |
| 2. Doshong La | .. .. | ” | Pe. |
| 3. Betasupu La | .. .. | ” | Pe. |
| 4. Deyang La | .. .. | ” | Deyang. |
| 5. Tamnyen La | .. .. | ” | Tamnyen. |
| 6. Lusha La | .. .. | ” | Lusha. |
| 7. Lamdo or Paka La | .. .. | ” | Paka. |
| 8. Shoka La | .. .. | ” | Shoka. |
| 9. Nayü La | .. .. | ” | Nayü. |
| 10. Yüsum La | .. .. | ” | Yüsum. |
| 11. Nepar La, probably the Kongbo name for the pass called the
Lo La by the Pachakshiriba | | | Lilung. |

The first three of these passes are only used by the Mönbas and civilised Lopas of Pemakö. The next three passes, the Deyang, Tamnyen and Lusha La, are used by Lopas whom the people of Kongbo informed us were partly subjects of the Pobas and partly independent. The Lopas who cross the Lamdo and Shoka

passes are said to be quite independent. Those who cross the Nayü La pay a small tax to the Dzongpön of Tsela, but are not considered to be Tibetan subjects. The Deyang, Tamnyen, Lusha, Lamdo, Shoka, and Nayü passes are only open in the month of September. The Yüsum La is no longer used, but the Lopas who used to cross this pass a few years ago were independent. The Nepar La leads to the Pachakshiri country, the people of which pay taxes to Lhalu, one of the larger Lhasa families. The Lopas who cross these passes come in parties from 50 to 100 strong. They come three or four times a year, a different group of villages coming each time. They are not allowed to sleep in the Tibetan villages, but camp near by and enter the villages in the day time, do their business, and return to their bivouac at night. They may only trade with certain Tibetan villages, and may not move up and down the Tsangpo valley to trade, nor may Tibetans of other villages go to trade with them. None of the Tibetans living on the north bank of the river are allowed to cross over to trade with the Lopas. At the time of our journey, the beginning of August, the passes had not yet opened and no Lopas had arrived, but they were expected soon. They bring over rice and take back salt in exchange. They do not understand money and all transactions are done by barter. The Tibetans never cross the passes into the Lopa country.

2. *Pachakshiri*.—About a century ago, at the time of the immigration of Mönbas and Bhutanese from the vicinity of Tawang into Pemakö, some of these people colonised the upper valley of the Siyom and are known as Pachakshiribas. They speak Mönba among themselves, but those we met could all speak good Kongbo Tibetan. They wear Tibetan clothes except for their foot-gear, which is sometimes a thin leather sandal though frequently they go bare footed. They do their hair in two queues in the Kongbo fashion; the Mönbas of Pemakö as well as those of Mönyul (the Tawang district) cut their hair short. They carry swords, bows, and arrows. In this country are also some Lopas who are probably a tribe of Abors. We met one of these Lopas in the Tsangpo valley. He wore a cane helmet something like those worn by Abors and Chulikatta Mishmis. His sleeveless coat was of serow skin, and he wore cuffs of cloth about six inches deep on his wrists; his legs were bare. He carried a bow, quiver, and a sword. He spoke Tibetan well and said that he was a Tibetan subject and paid taxes to Lhalu. From Tibetan pilgrims who visit a holy place in Pachakshiri and from the few men of that country whom we met we obtained the following information. The country is thickly wooded. The uppermost village is called Halung, and two days' march down stream is the lowest village below which live independent Lopas. The river is large, as big as the Kyi Chu at Lhasa in winter, and flows to Assam *via* a country called Boso. South of the valley are several others which are reached by crossing passes. The first of these is called Regong Rong Bong, the people of which speak a different language to that of the Pachakshiri Lopa whom we met; the next valley is called Lingbu, the next Tongbu, and the next Bo le, which is near Assam. Assamese traders have been to the lower Pachakshiri villages; they are described as men with black faces who bring up enamelled ironware, cooking utensils and concertinas. Assam is said to be about 20 days' journey from this country. We met some Pachakshiri traders at Migyitün who told us that there were no roads from their country into the Tsari valley south of the main range, and who had crossed it twice to reach Migyitün, once by the Lo La and again by the Bimbi La. When these people perform the longer Tsari pilgrimage they are obliged to cross the range twice and to start from Migyitün; they knew of no direct road from their valley to the lower part of the pilgrim road where it turns up stream (see Chapter IV, 2). The headman of the valley, Trashi Wangdi by name, is a Mönba and bears the title of *Depa*. He collects a tax of 2 tankas per man, excluding women and children, besides a tax of rice and madder; about 1,000 people pay the money tax. These taxes are sent to the Depa of Gacha, who is an agent of the Lhalu family, to whom he sends on the taxes. The Tibetans consider the Pachakshiriba to be Tibetan subjects.

3. *Lopas in the Subansiri valley and Daflas*.—The next tribe of Lopas met with are those who inhabit the basin of the Subansiri. As these tribes are completely cut off from India, and as our means of conversing with them were limited, the fullest details are given in the hope that some clue may connect them with tribes known on the Assam frontier. These Lopas are divided by Tibetans into five tribes.

(a) *Morangwa Tingba*.—These people have their hair cut like Abors and come to Migyitün to trade. They come up the valley the whole way from their villages to Migyitün without crossing a pass. In their language the river of their country is named Ngeshi. Their country is called Miri and in it are two valleys called Bayi and Morang. This is possibly Mara reported by the Miri Mission. These are the people who give trouble to the pilgrims who perform the long Tsari pilgrimage every twelfth year. The only member of this tribe which we met was a man who has been sold to the Tibetans of Migyitün as a slave when a child, and who knew very little about his native country. Their first villages are six days' march below Migyitün and must be just below the junction of the Tsari Chu with the Char and Chayul; these last-mentioned rivers unite on the frontier and flow down through the Lopa country where they join the Tsari Chu; the pilgrims who go down the Tsari valley and return up the Char-Chayul say that they do not see any Lopa houses, but that they see the people who say that their houses are close by. Some Daffas with their hair bound in front also came up the Tsari valley to trade, but we could not find out much about them. These two tribes come up stream in winter when they make the necessary rope bridges which are washed away every summer. They bring cane, rice, skins and madder which they exchange for woollen cloth, swords, iron, and salt. The men take 10 days to reach Migyitün from the nearest Lopa village down stream, their loads being very heavy. The articles they receive in exchange are less bulky and they can return carrying the lighter loads in six days. The Tibetans of Migyitün pay them an annual tax of 144 goats and every twelfth year the Tibetan Government bribes them heavily to allow the pilgrims to pass unmolested.

(b) *Lung tu Lopas or Kalo*.—These people live in the valley of the Subansiri just beyond the Tibetan frontier. They wear Tibetan clothes and can all speak Tibetan. Their hair is done in the Kongbo fashion. In 1906 the Tibetans fought this tribe and defeated it. The cause of the war was a trade dispute. These Lopas used to trade only at Raprang and Trön in the Char and Chayul valleys, but later took to going to Sanga Chöling. The people of Trön, seeing that their profits would dwindle, picked a quarrel with them and invited them up to discuss the question. When 70 of these Lopas were in Trön they were treacherously attacked and all killed. Later 50 more were killed, and in a third fight 20, after which the tribe gave in. After the massacre at Trön the tribe revenged itself by sacking Yü me, one of the villages of Tsari. They came up in winter when most of the inhabitants were away on their annual begging tour; the few women and children who were in the village escaped and the whole village was destroyed. The Tibetans immediately collected 500 soldiers from 'Guru Namgye Dzong and pursued them and overtook a few stragglers, killing six and recovering a little of the property which they had stolen. Previous to this war these Lopas claimed all the Tsari land except the actual valley of the Tsari Chu, and the Tibetans paid them a tax in Yü me of *tsampa*, swords, spears, and salt. Since the war the Lopas have not visited Yü me and the tax has not been paid, but the tribe has been forced to pay a tax to the Chayul Dzong-pön, though the Yü me Tibetans knew nothing of this. These men were only able to come up to Yü me and the Tsari pilgrim road up the Char-Chayul during September and October, as earlier in the year the rivers are impassable, and later the upper valleys are under snow. We met one of these men with his family who was living in a hut at Natrampa on the Chayul river. He told us that since the war the remnants of the tribe had been scattered and now had practically no permanent residence. He himself made a living by hunting and by collecting bamboos from down the valley out of which he made baskets. He paid a tax of 4 *tankas* and 2 annas a year to Chayul Dzong. In November Tingba Lopas (c) come up the valley to Lung, with whom these Lungtu Lopas trade. They in turn trade with Sanga Chöling, acting as middlemen between the Tingbas and the Tibetans. Before the war they used to travel up to Char Tö (the upper Char valley) to trade.

(c) *Tingba*.—This is a tribe who do their hair in a knot on the forehead and are probably a tribe of Daffas. They come up the Subansiri valley to Lung in November and trade with the Lungtu Lopas. We did not meet any of these.

(d) *Lagongwa*.—These are a tribe of Daffas. They cross the Lha La and trade with the villages of Kap and Trön on the Chayul river. We met parties of these

people. They wore a coarsely woven cotton plaid something like that worn by Lepchas in Sikkim which is fastened together with pins of bamboo. The men's hair was fastened in a neat knot over the centre of the forehead, through which a brass or bamboo pin about a foot long was passed horizontally. In this knot of hair they frequently wore a tuft of palm leaves and the tooth of a musk deer. Many of them wore helmets of cane somewhat like the Abor helmets which were fastened by a string to their knot of hair. In front of the helmet was usually a serow's horn, while on the top they sometimes had a tuft of large lamergeier's feathers. Some of their helmets had a wide fringe of some vegetable fibre to protect them from the rain. They wore a black cord bound round the left wrist as a protection from the bow string. They had a good deal of brass wire ornaments and earrings of telegraph wire; the lobes of their ears were not distended in the manner of the Abors, Mishmis, and Akas. They had necklaces of blue and white beads and their sword belts were ornamented with cowries. Their women wore their hair loose and had not so many ornaments. Some of them had rough boots of cloth, but these were only made for the journey over the snow. They called themselves Nyile be and said that the river in their country was called Korong or Korong Hoko. Their principal villages are Shobo, Rubang, Me le zo, Molong zo, and Dawa zo. No names resembling these occur in the Miri Mission report. They had never heard of Europeans or even, as far as we could make out, of the plains of India. They had heard of a war to the south between a tribe which they called Ripang and some people who used breech-loading rifles. This must refer either to the Miri Mission or to the Abor Expedition. They were armed with swords, bows, and arrows. They said that, carrying heavy loads, they reached the Chayul valley in eight days from their villages and returned in five when their loads were lighter; they pass no villages on the road. At first they were quite friendly to us and asked us to perform religious ceremonies that their families might be well when they returned. When, however, they found that we had no use for their madder and cane and that we had nothing which they wanted, they became rather rude and said we were wasting their time. We offered them opium and needles, neither of which they wanted. Our information was gathered through one of the Tibetans of Kap who knew a little of their language and who acted as interpreter between us. The Tibetans swindled them in trading, giving them short weight in every transaction; the Lopas complained the whole time and would frequently snatch a handful of salt and put it in their wicker bags. The Tibetans find a moss on the hillside which they dry and powder and mix with the salt; this is done to prevent the salt absorbing moisture when in the damp climate south of the range. The Lopas know of this adulteration, and it is not, as we at first thought, done dishonestly. Some people similar to these, and called Lagongwa Lopas, cross the Namsanga La and trade at Mago.

(e) *Lawa*.—These are also a tribe of Daflas. Their dress and general appearance are similar to the Langongwas. They come into Tibet *viâ* the Kashong and Chupung passes and live in a valley near the Lagongwas to whom they can speak though their languages are not quite the same. They call the river in their valley Keme Eshi. They trade in the same way as the Lagongwas.

The passes south of the Chayul are usually closed by snow except during July, August, and September; but in October and November both the Lagongwas and the Lawa Lopas can travel east on the south side of the range and cross by a lower pass which is clear of snow, and come up the river with the Tingba Lopas (c). The Lopas who trade at Migyitiu and in the villages in the Char and Chayul valleys are allowed to sleep in the Tibetan villages. The usual custom, which is followed in the Tsangpo valley and also in the valley of the Rong tö Chu and at Rima, is that the Lopas may only enter the village in the day time.

All these Lopas are obliged to come to Tibet to obtain salt as there is none in their own country. They bring up madder dye, skins, tobacco, long lengths of cane, and a little honey, which they exchange for salt, blankets, and woollen cloth, bells, cymbals, white or blue beads, goats and sheep, swords and iron. The business is done by barter, as not only do they not understand money but they are afraid of it. They are not allowed to go further up the Chayul valley than Kap.

From the Lha La to Gori Chen snow peak there are no passes over the range. South of Gori Chen at the source of the Gorjo Chu the hills which form the frontier

are comparatively low and could certainly be crossed, but we were told that no Lopas came over that way. The first pass used is the Namsanga La by which Daflas come to Mago to trade; these are called Lagongwas at Mago, and probably belong to the same tribe as those who visit Trön. Their villages are said to be three or four days' march from the Namsanga La, but we did not meet any of these people.

4. *Akas and Mi'is*.—The next point at which the Tibetans come in contact with the Lopas is where the Dirang Chu flows from Tibet into the Aka country. The Tibetans here are Mönbas. At Namshu village we met a party of these Lopas who proved to be Akas and who spoke Assamese. They were from Dzong village three days' march down the valley and trade at Tezpur in Assam, which is five marches from Dzong. Their hair was tied in a knot on the top of the head in the manner of the Miju and Taroan Mishmis. Round the forehead they wore a cylindrical crown about six inches high, made of bamboo or the skin of some animal, in front of which they wore a tuft of palm leaves or feathers. Their chief garment was of coarse, dirty white cotton cloth. On the left wrist they wore a bracelet of rope as a hand guard when shooting arrows and some of them wore blue beads tied round the legs just below the knee. They wore large silver earrings in the distended lobe of the ear like the Mishmis and Abors. They are much more civilised than either the Daflas whom we met or the Abors and Mishmis. They understand money and when they cannot collect their taxes from the Mönbas in kind, take cash. The Akas claim the whole of the Dirang valley up to the Se La and collect taxes from all the villages, but they are not allowed to go above the bridge 9 miles above Dirang Dzong. The Mönba villages above that point send down their taxes to Lis where the Akas, come to take them over. The Tibetans of Mago and Lagam also pay taxes to the Akas, the former paying their tax to the Mönbas of Namshu who pass the tax on to the Akas. (See Chapter VI.) The Akas of certain villages collect their taxes from certain Mönba villages which they claim to own. Some details of the taxes paid by one Mönba village, Namshu, will be interesting as an example of how these people are imposed upon by the Akas, and of the complicated system of giving and receiving taxes. Namshu, is "owned" by the Aka village of Dzong, and pays to that village every fourth year 20 sheep, 20 head of cattle, and 20 calves. Annually they pay the following taxes to Dzong and to other villages: To Dzong 1 bull worth 5 or 7 *sangs* (i.e., Rs. 8 or 11—1 *sang*=Rs. 1 $\frac{2}{3}$); to Ditsi one bull worth 5 *sangs* (Rs. 8); to Nakhu 1 bull and 1 calf; to Dibdin 1 bull with 5 *sangs* (Rs. 8); to Chelang 1 bull worth 4 *sangs* (Rs. 6); and to Delshing 1 bull worth 6 *sangs* (Rs. 10). They also pay annually to Tawang *Gompa* 30 *tre* of salt (about 30 lbs.) and 5 *ke* of barley (about 40 lbs.). Eighteen families in the village each receive 1 yak from Mago. It will be noticed that the taxes paid to the Akas are heavier than those paid to Tawang. The taxes paid to the Akas by the villages further up the valley are lighter than the above which are paid by a village close to the Aka frontier. The Akas whom we met demanded a tax from us for having, as they said, entered their country and we appeased them with a present of opium. The Mönbas call the Akas "Gido" or "Torku" and the Daflas "Tambala"; probably the latter is an attempt to repeat the Indian name of this tribe.

CHAPTER XII.

LADAKI TRADERS.

At Tsetang we found a colony of Ladaki Mohamadan traders. There were 20 men who with their families totalled about 50 individuals. These people frequently came to see us to emphasise the fact that they were British subjects. In this they had a special object. In Lhasa there are about 800 of their community who suffered considerable financial loss in the fighting between the Tibetans and Chinese. Two or three were accidentally killed, but they kept aloof from the fighting. The Nepaulese traders also suffered in a similar way and their agent at Lhasa, who at present has considerable influence in Tibet, is bringing pressure to bear on the Tibetan Government to compensate the Nepaulese traders for their losses, and it is expected that the Tibetans will pay. The Ladakis have, they say, sent a petition to the Resident in Kashmir, asking that similar steps may be taken on their behalf, and they pressed us to use what influence we had in India to back up their claims, especially as the Nepaulese claims were about to be admitted by the Tibetans. They have also, they say, sent the Resident a list of all Ladakis in Tibet, who will henceforth be registered as British subjects. They were

very gratified that Haji Ghulam Mohammad, the head Ladakī in Lhasa, had been granted the title of "Khan Sahib". Their women are not *pardah* and wear the ordinary dress of a Tibetan woman of Lhasa. They speak Tibetan among themselves, but all also know Hindustani as they visit Calcutta to trade. Those who have never left Tibet speak practically no Hindustani but are ashamed to show ignorance before Tibetans of what they claim to be their native language, and consequently, although Tibetan would have been a much easier language in which to communicate with them, we were obliged to struggle with their almost incomprehensible attempts to speak Hindustani. They all learn to write the Persian character until they can read the Koran, after which they study Tibetan writing, as they say that this is necessary for their business. The letters they wrote us were written in Urdu with a Tibetan translation. The headman of the Ladakis at Tsetang was very obliging to us and, at some considerable personal trouble, brought us money to Tsöna, for which we gave him a Calcutta cheque. These Ladakis carry cash to Calcutta, where they buy various goods of European manufacture and especially cotton cloth. These goods they sell in large towns like Lhasa and Tsetang, though occasionally they will travel about the country to sell in the smaller villages. A trader will make one journey to Calcutta a year in the cold weather taking with him about Rs. 3,000.

We found these people to be much interested in the outside world, and especially in the Balkan War. At Lhasa they receive regularly two Mohamedan newspapers, the "*Paisa Akbar*" and the "*Vakil Akbar*" which are sent to Gyantse by post and thence to Lhasa by the new Tibetan post. These papers are afterwards passed on to the Ladakis at Tsetang.

CHAPTER XIII.

CHINESE ACTION.

I. *First Chinese advance into Po me.*—The Pobas acknowledge no kind of suzerainty of the Chinese over them; their officials stated that their relations with the Chinese commenced when many years ago the Chinese sent people into Po me who strode about counting their paces and writing notes down as they went. The Pobas objected to this and turned them out of the country. This rumour was probably started in reference to the Chinese Lama whom Kinthup accompanied. He afterwards sold both Kinthup, the surveying instruments, and pistol, probably when he found that he would have difficulty in doing the survey work for which he had been sent. The Pobas had no idea that the Indian Government had sent agents in to survey the country. After this the Chinese had no dealings with Po me until about April 1911 when some Chinese came into the country (probably from Lhasa) who told the Pobas that they were going to make a road through the country and lay a telegraph line. The Pobas replied that they were neither subject to China nor to Lhasa, that they wanted no roads or telegraphs, and that they wished to be left alone. As the Chinese insisted on entering the country the Pobas fought them; they had no modern firearms, but with matchlocks and their long swords, for which they are famous, they defeated the Chinese. The four principal engagements were at the Chabji La which we passed on the 7th July, Tongkyuk bridge, where we stopped 8th and 9th July, Shila Dza and Cha-ze-Trong; we were not able to identify the last two places. The Chabji La is a spur coming down to the confluence of the Rong and Po rivers; the road is very narrow and steep, rising 900 feet from the Po Tsangpo and descending into the Rong Chu. The Pobas prepared ambushes along this road with stone chutes, and we were told by the officials at Showa that 500 Chinese perished here. Our guide on this part of our road had been present at the fight and had himself shot four Chinese and explained to us how the action was fought. The Pobas say they only lost six killed as the Chinese were taken by surprise and could not see their assailants in the thick forest. Our guide had also fought the Chinese at Tongkyuk bridge where the entrenchments of the Chinese camp were still standing. The Chinese had not occupied a bank which commanded their camp within 15 yards of their entrenchments. On this bank were several large rocks and smaller boulders on which we saw bullet marks. During the night the Pobas built sangars between the rocks and improved the natural cover and at dawn, fired into the camp. The Chinese fought well but lost 15 killed while the Pobas lost about

20. After this there was a running fight across the valley of the Rong river, but as the range was about half a mile no damage was done. The Pobas state that about this time they killed 1,700 Chinese and secured a number of their rifles. I was at Shiuden Gomba in June 1911 and heard about this fighting, the Chinese losses being put at between 300 and 500 men. The first phase of the fighting thus ended in favour of the Pobas.

2. *Second Chinese advance into Po me.*—At the time when the Chinese were advancing on Lhasa, the Tibetan Government wrote to the people of Po tö and of Po me, saying that the Lhasa authorities would guard the main road (*Gyalam*), but that they believed the Chinese would try to enter Tibet through Po tö and Po me, in which case they hoped that the people would resist them. The people of Po me had done their part, but in the second advance of the Chinese some of the people of Po tö aided them; the worst offenders were the *gompas* (lamaseries) of Pulung and Chung-lo. Some Pobas who came to see us at Kap on the 26th September told us that this summer they were going to destroy these two *gompas* and kill the monks who had helped the Chinese; they also asked if the Indian Government would help them if these two *gompas* persuaded the rest of Po tö to support them, in which case the fighting was likely to be severe. We told them that there was no hope that the Indian Government would help them in affairs of this kind.

After their first defeat the Chinese returned with fresh troops. A thousand of these entered the country *viâ* Po tö. Some of the people resisted and were killed and their villages and *gompas* destroyed, but, as mentioned above, some of the people helped the Chinese. Another Chinese column entered from Temo Gomba, whence they made a road *viâ* Lunang and Tongkyuk as far as Layötting. This road is from 4 to 6 feet wide according to the difficulties of construction. No blasting was done, but in steep places steps made of logs of wood and stones have been made. Parts of the road have also been made up to Trulung and improvements in the whole road as far as Showa have been carried out. Temo Gomba is an offshoot of Tengyeling Gomba which led the pro-Chinese party in Lhasa and which has now been destroyed by the Tibetans; the Chinese by using Temo as a base were sure of active support both from the monks and from the people of the surrounding villages including Lunang, which was on their road into Po me. This time the Pobas were defeated, the most important engagement being at Sumdzong four marches above Showa; the king fled into Pemakö, leaving his two wives and daughter behind. At Showa the Chinese seized the officials, head lamas, and also four of the five Chiefs who were to some extent under the Poba king of Showa. These people, eight ministers and lamas, and four chiefs were beheaded one afternoon near Showa, and the two wives of the king and the small daughter sent to Lhasa, receiving very rough treatment from their captors on the way. Thus on one day practically every one in authority in Po me was removed. The only minister left was our friend Nyerpa Namgye, who happened to be in Chiamdo when these things occurred. The Chinese then proceeded to punish the people for resisting them. The palace and *gompa* at Showa were burned and also many villages and *gompas* in the valley and many people were killed. A message was sent to Pemakö, whither the Poba king had fled, that he was to be killed. This the people did. The inhabitants of Pemakö (the Lower Tsangpo valley below the gorge), though Poba subjects, are of different races, and would probably not be much concerned at a change in the ownership of Po me. They were afterwards forced to pay a fine in kind valued at about Rs. 2,000 and one of them was executed. At this time the Chinese overran the whole country. In Pemakö they established garrisons at Yortong on the right bank of the Tsangpo, and at Chindro, where we were told that about 100 men arrived, in August 1911. From these centres small parties were sent to visit the outlying villages. At Rinchenpung we were told that three Chinese soldiers had arrived who only stayed a few hours. The Chinese occupation caused considerable hardship to the people, supplies were necessary, and also transport for the Chinese when moving about. Although the Chinese paid well in some places, the people were discontented and entirely deserted some villages, among others Giling where we stopped on the 6th June. In Po me itself practically all the villages on our road from Showa to Tongkyuk had been devastated, and we passed the ruined houses and uncultivated fields. The valley above

Showa was, we were told, in the same state though in Pemakö, where the inhabitants are mostly Mönbas and Lopas and where Pobas do not live, little damage had been done, probably as the people had not the same reasons for resisting the invasion and because the Chinese hoped to bring these people over to their side. At Gyadzong Gompa up the Yigrong valley the Chinese destroyed the temple, breaking all the idols; the incarnate lama of this place escaped them and fled to Bhutan, and he was at Sanga Chöling when we were in that neighbourhood in September though we did not meet him. In this devastated tract the people were very hard put to for food, as the crops and all domestic animals had been destroyed. At one place we found them eating this year's barley crop when it was green and before it had ripened. While the Chinese were in occupation of Po me the troops at Alado on the main Lhasa-Batang road attempted to get in touch with those in Po me down the Yigrong river, they came to Nyun one day's march from Alado, but could not come down the gorge as they were there in summer from July to September when the road was very difficult. After the second round of the contest the Chinese were victors.

3. *Departure of Chinese from Po me.*—When the news of the revolution in China reached the Chinese troops in Po me they commenced fighting among themselves, while parties of them in defiance of the orders of their officers attempted to leave the country. When the Pobas saw this they attacked the Chinese in many places. Near Pangchen, where we stopped on the 17th June, a small party of Chinese defended themselves bravely till their ammunition was exhausted, when they were killed with swords; their rifles, which we saw, bore the marks of the struggle, the heavy Poba sword cutting deep into the iron of the rifle. The Sü La which we crossed on the 23rd June was the scene of one Chinese defeat. The Pobas had prepared a position on cliffs among the snow near the top of the pass, where they hoped to surprise and kill most of the Chinese. In case any should escape another well-designed ambush was prepared some miles down the valley. The Pobas of Showa were to hold the sangars on the pass while the Lopas of Lagung and the neighbouring villages were to hold the second position. For some reason the sangars near the top of the pass were not held. We heard the story of this massacre from one of the people who took part in it. The Chinese were leaving Po me for Lhasa to join the troops there who had declared in favour of the republic. They had as transport coolies mostly Lopas from Pemakö; as a precaution they ordered these men to leave their swords behind but each man carried a stout stick to help him over the snow. The Chinese soldiers who carried rifles placed themselves scattered about the line in between the transport coolies, and the line, marched in single file up over the snow. The Chinese soldiers were insufficiently clad and were not accustomed to the cold, in addition to which the snow was soft and the road bad, while thick mist and falling snow added to their difficulties. The Chinese soldiers had wrapt their *pagris* round their whole heads to try and keep warm, their fingers were frozen and altogether they were stupefied by the cold. The man who told us the story was one of the coolies near the rear of the line. When they were approaching the top of the pass they heard a noise in front and called out to ask what was happening; the answer was that the coolies were killing the Chinese with their sticks. On hearing this all the coolies threw down their loads and attacked the Chinese soldiers nearest them. The latter were so numbed by cold that they offered hardly any resistance and did not fire a single shot. On this occasion 99 were killed, while only three or four escaped who were accounted for by the people in the sangars lower down the valley. A similar ambush was laid in the Doshong La for the troops who had been stationed at Chimdro and Yortong. The former left Chimdro in January 1912. The Mönbas who had been ordered to fight here did not occupy the sangars and the Chinese escaped without fighting. The Pobas also attacked the Chinese who retreated into Kongbo *via* Lunang. They pursued them through Lunang village as far as the Temo La, where the last action was fought, in which both sides lost a few killed. In this third stage of the fighting in which the Pobas were victorious they claim to have killed 1,800 Chinese. The Chinese when cornered appear to have fought well, and usually managed to destroy their rifles before they were killed. We saw the charred ironwork of some rifles which the Chinese had burnt in the house they were defending when all hope of

rescue was abandoned and their ammunition finished. The Chinese who escaped from Po me took many of the rifles of those who had been killed. In the foregoing account of the fighting in Po me the numbers of Chinese killed have been exaggerated by the Pobas. The people of Kongbo told us that though the Pobas killed a great many Chinese and gave them more trouble than the rest of Tibet, the numbers killed were not as great as we had been told. The Pobas have a very hazy idea as regards time, and the dates given are only approximate.

4. *Chinese in Kongbo and Southern Tibet.*—At the time when the Chinese occupied Lhasa they overran the Tsangpo valley as far down as Pe, doing a good deal of damage in Kongbo, where they are said to have killed women and children and to have looted the villages. We were told that they used to shoot ponies, mules and dogs in the villages for food and also that they eat the hearts of men whom they had killed which we assured the people could not be true. At this time a force of Tibetans was collected at Giamda to resist the Chinese, but these were ordered to disperse when the Delai Lama fled to India. At this time orders were also sent from Lhasa to Kongbo that the Chinese were to be given every assistance in their operations against Po me, and there is no doubt that the fact of the Chinese being in Lhasa and sending orders to the people from there gave them very considerable help. Some Kongbo troops had fought against us in 1904 and contrasted the behaviour of our troops with that of the Chinese. The Tsela Dzong pön said that he had sent seven of his people to fight us, two of whom had been killed and five taken prisoner who, after being photographed and given food, were released. The Chinese he said would have killed them all. In other parts of the country, however, we heard much better accounts of the behaviour of the Chinese troops. At Ganden Rapden and in that neighbourhood the Chinese troops were well controlled and, though the Dzongpön of Guru Namgye was fined 12 *dotse* (1 *dotse*=Rs. 83), the troops committed no excesses. The attitude of the Chinese depended on the individuality of the local commander, and possibly also on the temper of the Tibetans. There is no doubt that we have gained the confidence of the Tibetans by the control exercised over our troops in 1904. The Chinese did not send troops to the valleys of the Char, Nye or Chayul, nor did they reach Tawang or Mönyul, but some visited Tsöna. A party of 70 who escaped from Po me at the time of the revolution in China entered Kongbo by the Doshong La and travelled to Lhasa, burning and killing as they went. We noticed several gutted villages and a fine Dzong at Tü had been destroyed. In this place the Chinese had found 16 women and children who had fled on their arrival and were hiding in a cave, all of whom were bayoneted. In July 1913 there were about 2,000 Chinese soldiers in Chiamdo who were faced by 8,000 Tibetans at Lho Dzong and Shobando under command of the Kalon Lama whose headquarters were at Pembar. We found the people of Kongbo collecting rations and sending them up to these troops. After the Chinese had been turned out of Lhasa the Government proceeded to punish Tibetans who had been favourable to the Chinese. The Tsarong Shape and his son, besides several people of less importance, were executed by the Tibetans at the time of the fighting in Lhasa, and after the Chinese had left some further executions took place. On the arrival of the Dalai Lama, he gave orders that no one was to be killed, but that the estates of the pro-Chinese party should be confiscated. The monks of Tengyeling *Gompa* were the leaders of this party and the *Gompa* was destroyed by the Tibetans, who are building barracks on the site. At Jora a Tengyeling estate in the Loro valley we found the agent of the *Gompa* who was just being dispossessed and who seemed to think that the Chinese would soon return to power and restore the estates of their friends. In order to raise funds to repair the damage done by the Chinese to the temples in Lhasa a special tax called "Amda" or ear tax is being collected all over the country. This amounts to two *tankas* a man (one for each of his ears). One *tanka* for a woman and a *shogang* ($\frac{2}{3}$ *tanka*) for a child. Children under 8 and people over 75 years of age are exempt.

CHAPTER XIV.

OUR RELATIONS WITH THE PEOPLE.

1. *General.*—Our general attitude towards the officials we met to Tibet was one of absolute frankness. We told them that we had come for our own amusement

to shoot and to collect natural history specimens, but that at the same time we were going to make a map of the southern frontier which would be of value to the Government of India. Both in Po me and in Kongbo we were pressed for our explanation of the sudden activity displayed by the Indian Government on this frontier. The people feared that the Government intended to annex some of their territory. We felt obliged to answer these enquiries to prevent further doubts and suspicions, but at the same time were careful not to mention the Chinese in this matter. We told them that we considered all the Lopas from the plains of India up to the southern Tibetan frontier to be our subjects, but that, as they were very wild savages, and as there was nothing of value in their country, we had let them alone, seldom even visiting their country. On the murder of Mr. Williamson and Dr. Gregorson, however, the Government decided to exercise more control over these people and consequently officers with small escorts were visiting different parts of the Lopa hills. These parties would return to summer though posts might be left at places in the Lopa country, especially, we believed, in the Lohit valley, which did not concern our enquirers much.

A Tibetan official when travelling is entitled to free transport, supplies and lodging, which includes the necessary tents, furniture and cooking utensils, from the districts through which he passes. This free transport is called *ula*. In this matter we were treated exactly as though we had been Tibetan officials. Until we were robbed of our money we paid the people for these services, but towards the end of our journey we were unable to do so.

The changing of *ula* is a great trouble; there is always an old-established custom laying down exactly to what point any particular village has to carry; sometimes several small villages combine and carry a longer distance and sometimes the transport is changed at each one. It is possible to get an order from the Dzongpön that the former arrangement shall be made which avoids the delay of constantly changing. In certain out-of-the-way places such as Char tö and Mago where officials seldom travel and where in consequence the people do not often have to supply *ula* we had a good deal of trouble in getting them to obey us, but usually the people were quite ready to help and recognised our right to be supplied as though we were Tibetan officials. A *Dayig* or "arrow letter" is usually sent on to warn the people that an official is coming. It is the custom to write this on red cloth and to fasten it to an arrow, but it may also be an ordinary letter written on paper. This is quite distinct from the passport and gives the villages warning of the approach of an official and states the number of riding and transport animals required and the strength of the party, so that cooking utensils, cushions, etc., may be prepared for the night. On some occasions we sent on our own *Dayig*, but a passport signed by ourselves would have been useless. I did not attempt to conceal the fact that I had been British Trade Agent at Gyantse and this proved fortunate as I was recognised on four occasions. When our money was stolen we sent letters to all the Dzongs in the neighbourhood asking that orders might be issued to catch the thieves. We subsequently visited two of these Dzongs, Tsöna and Lhöntse, and found that orders had been sent to every village to look out for the men. In this way the officials would help us, but, except at Tsela and at Tawang, they refused to take the responsibility of granting us passports, though the fact that they permitted us to travel was sufficient for the peasants.

In writing the names of places in the Tibetan character for the map we also received great assistance from the Tibetan officials and the headmen of the villages. In many cases the officials wrote the names themselves, but more frequently would order a clerk to do this for us. It is curious that the average lay man who is literate is unable to write "*U-chen*" the character used in printed books, but only knows the running character used in writing letters. On the other hand the ordinary monk whose business it is to read the holy books is frequently unacquainted with the running character.

As far as we could ascertain no orders regarding us were ever sent from Lhasa. Our chief argument when questioned was that we had explained affairs to the Tsela Dzongpön, who had reported to Lhasa immediately, and that we were in daily expectation of orders coming from Lhasa in reply to the Dzongpön's letter.

As a result of the Lhasa expedition and of the civil dispensary established at Gyantse, the people in Tibet have a very high opinion of the skill of our doctors,

and at Tawang the officials of the *Gompa* were very disappointed that we had no doctor with us; as far as we could spare them from our small stock, we gave simple medicines as we travelled. At Shakti in the Nyamjang valley we gave some medicine to a small child who had been ill for 20 days and who was believed to be dying. Possibly owing to the medicine, but also probably by chance, she became rapidly better and when we travelled through the same valley a fortnight later we found all the sick in each village begging to be cured and bringing small offerings of eggs, maize, etc. There is no doubt that our reputation in this matter is of the greatest use in dealing with the people of Tibet.

2. *In Po me*—On the 16 May 1913 we left Mipi for Po me at the invitation of the Tibetans settled in the Dibang valley who had consulted their lamas, who reported favourably on the projected tour. We carried letters from Gyamtso, the headman of Mipi, a man of some influence among the Pobas. One letter was addressed to the Dzongpön of Chimdro, the first official we would meet. It was to the following effect:—

“The British have arrived in Pemakö from the Mishmi country and have treated us well, giving us good presents. Some of them are going into Po me and thence to India. Bailey Sahib is going, who knows the Tashi Lama and Delai Lama, so you should not stop them. Please also send a man to accompany them when in Po me. There are many British in Zayul, Kala Yong Dzong (*i.e.*, Nyerang on the northern Abor frontier), Pemakö and here also in the Dri, Dibang, Emra, Ahui and Matu valleys. They are in countless numbers. As Gyamtso cannot himself go with them he sends this letter to inform you. This country is not under the Emperor of China but under the British. They will give no trouble to the people, so please do not stop them but give the necessary orders to help them.”

Another letter was written to the Poba queens and was to a similar effect. A third letter of which we were supposed to know nothing was written to an incarnate lama at Riwoche named Gedrun Rimpoché. This lama was head of the small *gompa* at Mipi where he had lived some time, and was a report of the arrival of the Dibang Survey party at Mipi and of our subsequent movements. I think that the only reason for keeping this letter a secret from us was that the messenger was one of our guides whom we paid to accompany us to Chimdro from Mipi, and he probably thought that, had we known he was going on other business, we might have objected to pay him. The people of Chimdro, the first habitations we reached in Po me, had received no news of our arrival in the Mishmi Hills as we were the first to cross the passes this year; we therefore sent a messenger on very early on the morning of our arrival who carried our letters of introduction. On reaching Chimdro we were met by representatives of the Dzongpön, who presented us with silk scarves. The next morning the 1st June, we called on the Dzongpön, an incarnate lama, aged 55, called Pongle Lama. He was evidently rather frightened of us and did not know what he ought to do. He said he would give us transport and would order the people to sell us what food we wanted. He told us that Nyerpa Namgye, who afterwards took us to Showa, was in Pemakö and that he had sent for him to come up at once to take us to Showa *via* the Sü La. He was evidently anxious to get rid of us as soon as possible and discouraged the idea of our travelling about in the country. In the evening he asked us to go and see him, and we found that he had just received news that the Abor Survey Party had reached Kopu. The Abor Survey party did not actually reach Kopu till the 14th June, but news of their arrival in the vicinity had been brought up. He was keen to know how far they proposed coming into the country and whether we were posting any officers in Po me or the Mishmi or Abor hills. I told him that we considered all the Mishmi and Abor tribesmen as our subjects.

After halting two days at Chimdro we left for Pemakö with a passport sealed by the Dzongpön which contained orders to the people to supply us with food and transport. At Kapu we despatched a letter to the Abor party and while waiting for a reply visited Rinchenpung, a small *Gompa* above the left bank of the Tsangpo four days' march below Kapu. In the meantime the official Nyerpa Namgye was doing some business up the valley above Kapu. On our return up

the valley from Rinchenpung we heard a rumour that we were to be turned out of the country at once, either *viâ* the Doshong La into Kongbo or back to Mipi. On the 14th June we received a letter from the Nyerpa but were unable to read it. The next day on our march we had to cross a stream, the Hering Chu; on the 7th this had been crossed by a bridge which had now disappeared; this looked as though there was some truth in the rumour and our 10 coolies were somewhat alarmed. It turned out, however, that the bridge had been carried away by a sudden flood. The purport of the Nyerpa's letter, which, with the aid of a monk, we read the next day, was that the villagers of the lower Tsangpo valley were very ignorant people who had killed the Chinese a year ago, and we should not travel among them, but should return to Chimdro and, if we wished to go to Showa, the capital of Po me, we should cross the Chimdro La to Dashing. Dashing is directly under Lhasa, and the official's object was to shift the responsibility of allowing us into the country on to the shoulders of the Lhasa official at Dashing. We decided to ignore this letter and to go up the Tsangpo and interview the official.

On the 19th June we reached Lagung, where this official was stopping. As we approached the village we were met by some of his servants with *chang* to welcome us. We lost no time in going to see him. We told him that we had not travelled *viâ* the Dashing La as directed in his letter as we had heard that the pass was still closed by snow; he said that we had been misinformed, but that as we had got to Lagung he would take us to Showa, and that we were not to trouble about our supply or transport arrangements as he would do everything for us. On hearing of the arrival of the Abor Survey Party in Pemakö he had written to Mr. Dundas to say that, as the people of Pemakö were not thoroughly under control and had recently killed a number of Chinese, he should not come up the Tsangpo valley, but should go over the Tamnyen La into Kongbo, which he said was the easiest road. A reply was received from the "Bara Sahib" saying that the party did not wish to travel in Pemakö but only wished to go to Gyala Senglam, which is in Kongbo. The Nyerpa had told us that he had asked us to go *viâ* Chimdro as, if after receiving Mr. Dundas' letter, the people saw us coming up from Pemakö, they would think we had come from the Arbor party and that we were people "like the Chinese who promised one thing and then did another." The people about Lagung were very suspicious of us. A rumour had been started that the Indian Government were helping Chinese troops to come up through the Abor country to avenge the defeat and massacre of the Chinese in Po me; the people did not trust their officials who, they feared, would allow Chinese troops to enter the country peaceably who, when they had arrived in force, would burn and massacre the people as before. Unfortunately Mr. Dundas' reply to the Nyerpa's letter and a letter which he sent for the Poba queen were placed in Chinese envelopes and the Tibetan writing in the address contained a Chinese expression. We were able to persuade the Nyerpa that there was no significance in this, but he had some trouble in quieting the fears of the people. The Nyerpa told us a good deal of the action of the Chinese in Po me. We left Lagung in company with the Nyerpa on the 21st June, and on the 23rd crossed the Sü La and camped together on the north side of the pass. On this day he told us that we would be kept in Showa until letters had been sent to the Abor party to ask if we were really under the same king as them, and to ask whether any more people, especially whether any soldiers, would be sent up. He said that we could also write a letter which would be delivered to Mr. Dundas and if satisfactory reply was received we would be allowed to proceed. We asked if we would be allowed to travel up the Nagong Chu towards Shiuden Gompa while waiting for the reply, and were told that the Council in Showa would have to decide, though it was unlikely that we would be allowed to travel about. We protested very strongly at being kept practically as prisoners and the Nyerpa said he would see what could be arranged. The next day he asked us to do a short march in order that he might reach Showa a day before us so that the Council might decide about us before our arrival.

We reached Showa on the 25th June and immediately sent a message to the Nyerpa by Sonam Chömbi, the guide whom we had brought from Mipi, saying that we wished to call on him to thank him for his help on the road and also to ask for some food, of which we had none. The Nyerpa himself came over, with another man

who had been some time in Lhasa, saying that as the Chinese had burnt his house he had nowhere to receive us ; he brought presents from the Poba queens, who made excuses for not receiving us ; one was performing a religious meditation and the other had a toothache. Mr. Dundas' two letters were also shown to us and we were asked to explain the Chinese envelopes ; we pointed out that the writing paper was English and showed them the writing in the watermark, which they recognised as quite unlike Chinese characters, and which corresponded with printed characters in our books. There was to be a Council meeting the next day to decide what was to be done with us, after which the Council would come and visit us in the house which had been placed at our disposal. We had told the Nyerpa that we were travelling for our own pleasure, making a map, taking photos and collecting birds and butterflies, that I always preferred to spend my leave in this way and had tried to get into Po me in 1911 from Shiuden Gompa about which attempt they had heard ; we had obtained a few months' leave but had not been sent by the Government though our map would be presented to the Viceroy, who was interested in the course of the Tsangpo. We now sent our Mipi guide Sonam Chömbi to explain this again to the Poba Council and to use other arguments to ensure our receiving the help which we required. He was also to try to ascertain on what lines we would be questioned by the Council the next day and generally to quiet their suspicions, explaining how we had come to Mipi in force but had treated the people well. In the evening after seeing some of the Poba officials he came to us to say that the Pobas would never believe that we had come so far and taken such trouble for our own pleasure and amusement ; they were a very suspicious people and had lately been hardly treated by the Chinese ; to quiet these doubts we should say that we had been sent by the Viceroy to report on the country ; this was a straightforward explanation which the Pobas would understand.

The next morning the councillors, seven in number, came to see us. They were an unimpressive and dirty lot. The only people who looked gentlemen were our friend the Nyerpa, who took precedence of the others, and a man who had spent most of his life in Lhasa. The Nyerpa explained by way of apology for their appearance that the Chinese had beheaded all their officials' and that these men were now replacing them. We had to go through our story which had already been told so often. They were very ignorant and were surprised to hear that we were of the same race as the foreigners of whom they had heard at Gyantse, and asked if we knew Major O'Connor, whose reputation had spread thus far. They told us how the Chinese had treated them and asked whether the Viceroy would send troops up from India, and, when we said that that was unlikely, they asked whether the Viceroy would send them a letter ordering any Chinese who came not to interfere with them. We said that we could not say what the Viceroy would do but that we would report what they had told us of Chinese oppression. We also promised to give them a letter saying that they had helped us which they could show to any other travellers. We said we wished to go several days up the valley to Dashing and Sumdzong. They would not allow us to do this, saying that there were quarrels between them and the people of Dashing, and that they had agreed not to go past a certain point on the road, and that if we went they would be obliged to pay the Dashing people a heavy fine, and that probably we would be fired on when approaching the Dashing land. We did not believe them and eventually discovered that there was no truth whatever in this story. After talking the whole morning it was decided that we were to go into Kongbo by the road *via* Tongkvak, which we eventually followed, and that if possible we could go down the Po Tsangpo to its junction with the Tsangpo at Gampo ne, though the road was almost certainly interrupted by the floods which occur every summer. It was evident that these people had decided nothing when they came to see us and that both the Nyerpa and Sonam Chömbi had done their best to help us by explaining that we were really quite harmless. They prevented us from travelling about in their country and made us follow the direct road out to Kongbo. They did this as, since the Chinese had executed all their officials, the peasants had very little respect for those in authority, and they were afraid that suspicions might be roused if we travelled up and down the valley, whereas if we followed one direct road, the officials could explain to the people that we were passing straight through. They were anxious to establish relations with our officers at Sadiya with a view to trade

and general intercourse. At present they are cut off from India by the Mishmia, and except for a little Assam silk, they receive nothing from India through them. The few Indian things they require are bought in Lhasa and are consequently very expensive before they reach Po me. They wished to send an official down to Sadiya to see whether a road could not be opened up. I told them that the Political Officer at Sadiya would welcome any one who went down to discuss these matters and advised them to go *viâ* the Lohit valley. They said that they would like an invitation from the Political Officer at Sadiya as some guarantee that they would not have trouble in passing through the Mishmi country. At Kap in Tibet on the 25th September two Pobas came to see us who wished to go to India to trade and asked our advice as to the best road for them to take. They were either going *viâ* Gyantse and Darjeeling or through Tawang to Tezpur and we gave them a letter asking any one to help them should they be in difficulties. They were alarmed at the idea of visiting a foreign country but are most anxious to be able to trade direct with India instead of dealing through other Tibetans.

The evening before we left Showa we received letters from the Abor Survey Party which fortunately proved beyond doubt that we were the same people. We had been able to convince the officials of this but the peasants appear to have been doubtful and to have thought that we were agents of the Chinese, who had been able to hoodwink the officials and who would eventually bring more trouble on the country. We left Showa on the 28th June. Some of the officials including Nyerpa Namgye saw us off and gave us letters to the officials at Dre and Tongkyuk. We were also given a guide to see that we had no trouble with the people. They were quite friendly but disappointed that we would not promise to help them against the Chinese. They said that when they first heard of our arrival their "ears were hot" as their only previous experience of foreigners had been with the Chinese; but now that they had seen us they realised that we were quite different and hoped that we would return some day or that they might meet us in India. They took us to the ruins of the palace and *Gompa* which the Chinese had burnt and asked me to photograph them so that the Viceroy might see with his own eyes the damage the Chinese had done and might then be persuaded to give them active help. We parted the best of friends, giving them some money towards the rebuilding of their palace and lamasery. Later at Dre and Tongkyuk we met small officials who had camps prepared for us and who helped us in every way possible. We had no trouble whatever with the people, who provided us with the supplies and transport which we required. We explained many times how the map was made and asked if they had any objection; they replied that no one could object to the plane table but that they did not like people to count their paces and write things down in a book as they went along which is, they said, what the Chinese did formerly. At one or two places the people did not like our taking sun observations with the theodolite, until we explained that this was done to obtain the correct time without which we could not travel to do any work.

It was unfortunate that the letters sent by the Abor Survey Party were in Chinese envelopes as this made the people very suspicious of our explanations and they seized on trifles to suggest that we were not what we gave ourselves to be. They noticed also that the letters from the Abor party to them and the one we received were sealed with different seals and we had to go into a lengthy explanation that seals with us had not the same importance as with them. They also noticed the Chinese characters on a piece of Indian ink and were again suspicious about this. The people are very much more cut off from the world than other Tibetans, very few of them had ever seen a watch and many of our simple things surprised them. They also asked us which sect of Lamaism we favoured and had not heard of any religions but their own and Mahomedanism.

3. *In Kongbo, Takpo and other parts of Tibet.*—The first official we met in Kongbo was the Dzongpön of Tsela, named Kokar, who is the father of one of the four Tibetan boys at present in England. He said that the wildest rumours were reaching him regarding the force which was with the Abor Survey Party. The latest news was that it had been carefully counted and numbered 26,818 men. We told him exactly where we had travelled and what we propose to do and assured him that the Abor party were returning to India. We

told him that we considered all the Lopas to be our subjects but had taken little trouble to control them for many years, but that since the murder of Mr. Williamson and Dr. Gregorson we were taking steps to establish more intercourse with, and control over, these people. He told me that he wished to report this to Lhasa at once as the authorities there were being alarmed by the exaggerated rumours which were spreading. He had collected several of his subordinate *Depas* to meet us and one of these, the Gyala *Depa*, eventually took us down the river as far as Gyala and gave us transport to go to Pemaköchung. During our journey we frequently found tents pitched for us on the road and tea and milk or a meal prepared. At our camps, which were usually at villages, the people sometimes pitched tents or, if the houses were poor and dirty and no Tibetan tents were ready, we would pitch our own 30-lb. tent. If the houses were roomy and clean we usually slept in them.

The Tsela Dzongpön gave us a passport as far as the frontier of Takpo, after which point we carried on without one until we reached Tawang; we were occasionally asked for one, especially when near the Indian frontier.

At Gacha on the 13th August we received a letter dated Pembar, the 24th July, from the Kalon Lama, who was Commander-in-Chief of the Tibetan forces facing the Chinese troops in Kham. The letter had been sent to Showa, whence the Pobas had forwarded it to the Tsela Dzongpön, who sent it after us. The letter was written in Tibetan with an English translation beside it and bore the Kalon Lama's seal. The following is the English translation which was attached:—

“To the British Officer in charge, who reached at Po Kanam side, Tibet.

Dear Sir,

I am glad to know your safe arrival at that place. As regards the treaty between the Chinese and Tibetan, it has been decided that the British, Tibetan and the Chinese, three parties will assemble at Darjeeling for settlement. Though it is so, the Chinese being extremely unreliable and of no shame, I (Kalon Lama *i. e.*, Tibetan Minister) by order of Tibetan Government have reached here at Pembar. The British and Tibetans being in the best most mutual friendly terms, I should feel much obliged and glad to know in detail the reason of your coming up this side. Am well here and hope you to be the same there. With white scarf.

Yours sincerely,

KALON LAMA,

The Tibetan Minister.

DATED KHAM PEMBAR;

The 21st day of second 5th Moon.

Water bull the current year.

To this we sent a suitable reply.

The first man to question our right to travel and who seemed disposed to stop us was the small official (*Depa*) of Kishung who was in charge of the people of Mago, and who tried to prevent our going there. We told him that we had no passport but were expecting one to come, and that up to that point we had received nothing but assistance from the officials whom we had met. The argument that finally persuaded him was that we were mapping the southern frontier and had come so far from Pemakö without a break, and that our map of the frontier would be very incomplete if we did not visit Mago. Again at Shio on the same day we encountered suspicion on the part of the Shio *Tungkor* in whose house we stopped and to whom we used the same arguments.

4. *In Mönjul.*—At Dirang we were on the main road between Tawang and Odalguri and, as the people were accustomed to prevent travellers from India from entering Tibet by this road, the people were afraid of allowing us to proceed towards Tawang. At Dirang they asked to see our passport. They apologised for troubling us about such a trifle and for appearing to suspect that we had no business there, but explained that they were a very rude and uncivilised people and only a little better than the savage Lopa, and this being so they would feel happier

about us if they saw a Lhasa passport. We entered into the lengthy explanations which we had used before and were allowed to proceed. The Dirang Dzongpön was said to be up the valley and we did not see him, but subsequently discovered that he was lying low in the Dzong at the time we were there but was shirking the responsibility either of stopping us or giving us the necessary passport and allowing us to proceed. The consequence of this was that the next day at Nyukmadong the people could not understand why we had no passport from the Dirang Dzongpön who is the official in charge of them, and they refused to give us any food or transport. We were very angry with them and said that we had had no such difficulty during five months of travel. We showed them the Tsela Dzongpöns passport which was of course only available in Kongbo and also the seals of some letters from the Delai and Tashi Lamas which were about other matters, and the seal of the letter which we had received from the Kalon Lama. We explained that we could not show the letters to peasants like themselves but would explain everything to Tawang. The result of this was that they produced a little food and said that they would consult with the people of Sengedzong the next village and let us know what they decided. The next morning the people still refused to give us any help, so I went up to where they were sitting in a kind of village council and told them that I would go to Twang myself with 3 of our coolies, leaving Captain Morshead behind, and that I would have orders sent from Tawang that they were to bring our things in and that they would all be flogged in Tawang for hindering us. I then went off and had some things packed up and when they saw that I was really in earnest they offered to carry for us as far as Jang, which they did during the next two days. At Jang we had a similar difficulty but here no threats or promises had any effect in shaking the people. Tawang was only 10 miles off, so I took 3 coolies, leaving Captain Morshead with the bulk of our baggage behind. I was well received in Tawang and orders were at once sent to Jang that Captain Morshead was to be given transport to take him into Tawang. We had little trouble in convincing the Council that we were really quite harmless though they said that at first they believed we were sahibs in the pay of the Chinese, in which case we were to have been killed and our bodies thrown into the river. With the exception of the suspicions aroused in Po me and near Tawang we had no trouble in moving about. It must be remembered that for a great part of the time we were entirely without money and were unable to pay even for the food that was supplied to us.

5. *In Bhutan.*—At Trashigang in Bhutan the Dzongpön went out of his way to pay us every honour. At the foot of the hill below the Dzong ponies with gorgeous saddlery were waiting for us. Outside the Dzong we were met by many of the officers, who presented us with silk scarves, while in the courtyard the Dzongpön himself met us and taking me by the hand led us up to his own room which was prepared for our reception. A devil dance was being performed which he had delayed until our arrival. The Dzongpön was 53 years of age and had been at Lhasa with the present Maharaja when the mission was there in 1904. He pressed us to stay a few days with him, but we were obliged to refuse. The next morning he walked some way with us and gave us each two ponies for the journey and sent some of his servants to look after us. In fact he could not have done more for us than he did.

CHAPTER XV.

TRADE.

1. *In Po me.*—In Pemakö the people trade with the Abors and with the Pobas of the Po Tsangpo valley. From the latter, in exchange for rice, madder and chillies, they obtain clothes, woollen cloth, iron and salt; these articles are exchanged with the Abors for musk, cotton and skins. The inhabitants of Pemakö also cross the Doshong La to Kongbo, where they exchange rice for salt. At Chimdro traders from Tsarong come up *via* Rima, bringing tea, money and cloth, which they exchange for musk and *tita* (copt's teeta), a bitter plant used as medicine and called by Tibetans *Duntsa* or *Shingtsa*, which eventually finds its way to China. Traders come over the Chimdro La from the Po Tsangpo valley, bringing salt and cattle to Chimdro. The Chimdro people do a little trade through the Tibetans of Mipi with the Chulikatta Mishmis of the Dibang valley, supplying them with salt, swords.

woollen cloth and cattle in exchange for musk and *tita*, while the Mipi people obtain from the Mishmis grain, as their own food crops are insufficient. The Chimdro people also import a little rice from Pemakö. The people of the Yigrong valley are famous for the swords which they make there; the iron is obtained from a mine of bog iron ore on the banks of the lake near Dre, which is described in Chapter XVI. These people trade mostly with Kongbo going to Lunang and Temo. They sell iron, swords, and musk and bring back ponies, mules, cattle, brass bowls, wool, and clothes. Musk is sold in Kongbo for 10 times its weight in silver. They also sell this iron in the Po Tsangpo valley and at other places. In the upper portion of the Yigrong valley the inhabitants trade with Alado. At Tongkyuk in the Rong valley the people trade with Lunang, exchanging butter and cheese for grain. They also trade in ponies, mules and cattle. At Showa and the villages in the Po Tsangpo valley the people trade with Pemakö, Chimdro, etc., as mentioned above. They also trade with Chiando, selling madder and buying tea. They obtain salt from Riwoche and from Chiando. Traders from Tsarong also come to Showa; while Poba traders occasionally visit Lhasa.

Indian and Chinese rupees and Tibetan *tankas* are used. The Indian coin is preferred. The exchange is about 3 tankas a rupee. Most of the trade is done by barter.

2. *In the Tsangpo valley.*—In the Tsangpo valley in Kongbo the people trade with Lopas and Pachakshiri people who come over the passes from the south bringing musk, chillies, red madder dye, and hides which they exchange for salt, wool and woollen goods; swords and iron. These Lopas do not take money but only understand barter though the Pachakshiriba will take money. Lhagyari and the country to the south is a great wool-producing district.

3. *In the upper Subansiri valley.*—At Migyitün on the Tsari river and at the lower Tibetan villages on the Char and Chayul the people trade with Lopas who visit Tibet bringing madder (*Rubia cordifolia*) in large quantities and also cane, hides and tobacco, which they exchange for salt, goats and sheep, swords and iron, bells, cymbals and beads. The last three items are a form of currency among the Lopas. At Migyitün they also sell slaves to the Tibetans who cost 45 sangs (about Rs. 75). The whole of the country between the main Himalayan range and India which is inhabited by Lopas is devoid of salt and the people are obliged to obtain this necessity either from Tibet or from India. The passes by which the Lopas arrive are only open in the autumn.

4. *Tsetang.*—Tsetang is an important trading centre and is visited by numbers of Mönbas from Tawang. There are also about 15 Ladaki besides many Tibetan traders. The Mönbas bring up chillies, madder and planks which are obtained from the low-lying district of Mönyul and Indian goods brought from Assam. The sale of rice by Mönbas in Tsetang is now forbidden (see paragraph 7). Formerly they travelled about in the neighbourhood of Lhagyari buying wool, but the Government monopoly has interfered with this trade. In the bazaar at Tsetang we saw a few European goods; there were candles made by the Burma Oil Company; English soap; enamelled ironware mouth organs, mirrors with pictures of the King and Queen, aniline dyes, knives and scissors made in Germany. Matches, tooth brushes and powder made in Japan. Besides quantities of cotton cloth, Chinese tea and Indian tobacco, there were no cigarettes as the importation has been forbidden by the Delai Lama. We were here able to obtain a little sugar imported from India and also some gour which comes from Bhutan, both of which we were greatly in need. Most of these foreign goods were cheap German-made articles but in one case the Tibetans have learnt to appreciate good work. Rodgers' knives are very famous and known as "Rachi" and practically every man in Tibet who does any writing keeps one, as they say no other knife will cut the hard bamboo pens which are used and which have to be frequently trimmed. We also bought a very good pair of boots—the only pair in Tsetang—made by Pocock of London, which lasted until we reached the railway, a distance of nearly 900 miles, a little of which was as done on horseback. At the time of our journey the price of Chinese brick tea was very high owing to the troubles on the eastern border. The first quality was being sold for 30 tankas (Rs. 7-8-0) a brick and the second quality, which is much the most consumed, at 20 tankas (Rs. 5). A brick of this tea weighs between 4½ and 4¾ lbs. Indian
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leaf tobacco which cost Rs. 16-8-0 a maund in Kalimpong was being sold for 25 *sangs* (about Rs. 42). English felt hats are now becoming popular but the dull colour is usually livened by a broad band of Chinese brocade, some of which is also often sewn under the brim. We were also able to buy some cotton underclothing.

5. *Tsöna*.—*Tsöna* is an important trade mart for the exchange of the produce of the low valleys of Mönnyul with that of Tibet. Three times a year traders collect here for business. These three marts are called *Yartsong* ("Summer trade"), *Töntsong* ("autumn trade"), and *Güntsong* ("winter trade"). The country is under snow till March, up to which time *Tsöna* is practically deserted. In the 4th month (May) a few traders come and the first mart, the *Yartsong*, is held from the 5th to the 15th of the 5th month (the middle of June), when large numbers of merchants are present. Many of these go away but some remain until the *Töntsong*, which lasts from the 5th to 25th of the 7th month (the middle of September), at which numbers of traders are again present. Some of these traders remain till the end of the 8th month, after which the mart is deserted until the *Güntsong*, which is held in December and January. At this last mart nomads carry salt from the *Chang Tang* north of Lhasa which they sell, and with the proceeds buy grain in the neighbouring fertile valleys which is carried back to their homes where no crops at all can be grown. There are two roads between *Tsöna* and Mönnyul; one *viâ* the Mila Katong La is that by which Nain Singh travelled in 1875, and the other *viâ* the Pö La and the Nyamjang valley is that which we followed. On each of these roads is a custom house or *Tsukang* called the eastern and western *Tsukangs*. Agents of the *Tsöna* Dzongpöns reside at these places, who collect a tax of 10 per cent. on all merchandise brought from Mönnyul to *Tsöna*. The chief articles brought up are madder, maize, rice, chillies and a few other crops of these 10 per cent. is taken in kind at the *Tsukang*. Some Indian products are also carried up and for these the traders pay a tax estimated at 10 per cent. in cash. Planks are also carried up, which are sold at 3 per tanka (12 per rupee) in *Tsöna* and which are carried to Tsetang, where they are sold and taken to other parts of Tibet. There is no tax on articles carried down from *Tsöna* to Mönnyul. No trade was going on when we visited *Tsöna*, but a few small traders were met on the road who were carrying among other things oranges and pomegranates. We paid 23 tankas a brick for the second quality of brick tea which had cost us 20 tankas in Tsetang. The taxes collected at the *Tsukangs* go to the *Tsöna* Dzongpöns; of these there were formerly two, but owing to the damage done by the Chinese to Ganden, one of the three largest Lhasa Monasteries, the Delai Lama granted Ganden Gompa a share in these revenues, and two monks were sent down to *Tsöna* and there are at present 4 Dzongpöns.

6. *Currency*.—The coin most in use is the Indian rupee, which is exchanged for 4 or sometimes at the rate of $4\frac{1}{2}$, or $4\frac{1}{2}$ tankas per rupee; in Lhasa the rate was $4\frac{1}{2}$ tankas when we were at Tsetang. The Chinese rupee is only worth 3 tankas. The traders complain that they cannot get enough Indian rupees and we were pressed to part with some of ours in exchange for Tibetan coins. Those who had been in India and had seen sovereigns wanted us to exchange these, which we did, selling them for 60 Tankas each. The Chinese, besides their rupee, coined one *Tanka* and two *Tanka* pieces, which are not popular the people preferring either the old *Tanka* or a new one of a similar pattern to the old Tibetan coin which is now being struck in Lhasa. A curious coin which is also now being made is the *Sang* or *Ngu sang* worth $6\frac{2}{3}$ tankas or Rs. $1\frac{2}{3}$. There was no post office at Tsetang though it was proposed to open one there soon.

7. *Monopolies*.—The Tibetan Government has granted monopolies in wool, musk and yak tails to two people, a Khamba named Nyigye and a man called Garöshar. There is also a monopoly in rice, which is carried up from Mönnyul by the eastern route *viâ* the Mila Katong La and may only be sold to a Tibetan official styled a *Dre Drukpa*. At Namshu village in the Dirang valley the people told us that they used to dispose of a good deal of rice at Mago, but that orders have recently come that all Mönba rice must be sold to the *Dre Drukpa* in *Tsöna* and, as they cannot do so profitably at the price fixed, rice cultivation in the Dirang valley is now restricted to the wants of the people themselves. The *Dre Drukpa* obtains salt from Tibet which he exchanges with the Mönbas for rice.

8. *Government traders*.—There are in Tibet several *Shung Tsōngpas* or Government traders. There are three of these officials who trade with India and others who trade at Tachienlu and other places. One of these met at Tsetang gave the following information regarding his business. In Lhasa he is given about 400 loads of wool, 10 loads of yak tails and a little musk. Sometimes if these goods cannot be conveniently supplied in Lhasa he is given cash and travels about the country buying them. To carry these down he is given free 30 pack and 3 riding animals and pays for the hire of the balance necessary, entering the sums paid in his accounts. He pays 10 tankas (Rs. 2-8-0) an animal from Lhasa to Phari, the animals being changed from stage to stage. He sells the wool at Phari to the Chumbi valley traders for 9 *sangs* (about Rs. 15) a load. He takes this cash together with the yak tails and musk to Calcutta, where he remains about a month and sells the latter articles for about eight or nine hundred rupees and purchases Indian goods—sugar, dried fruits, cloth, enamelled ironware, etc. In Kalimpong he also buys tobacco and returns to Lhasa; here he reports to an official called the Labrang Chandzo, who takes about $\frac{2}{3}$ of what he has brought up for the use of the large monasteries at Lhasa and orders him to sell the remaining $\frac{1}{3}$ in Lhasa. On the whole of this business he is supposed to make no profit but sends in accounts. He is paid 30 *sangs* (about Rs. 50) a year and takes the opportunity of this business to trade on his own account. He does the Government work described above once a year and has the rest of the time to himself, which he spends in trading on his own account.

9. *Trade roads to India*.—The only important trade road to India is that going from Lhasa to Tsetang and Tsōna, where it divides, one road going to Tawang and *viâ* Dirang Dzong to Odalguri in Assam, and the other *viâ* Trashigang in Bhutan to Dewangiri; there is also a trade road from Tawang through Trashigang to Dewangiri. On the former road the bridges near Odalguri are not repaired until the end of December, before which time the road is impassable. There is also an important road from Tsetang to Darjeeling. This road goes up the Tsangpo to Kamba Partse, a camp of the Mission in 1904, whence it follows the route used by our troops as far as Ralung, from which place a short cut is taken *viâ* Nyelung to Kangmar, which is on the main Phari-Gyantse road.

The trade road from Tawang to Odalguri was not open at the time of our journey as the temporary bridges which are carried away in the summer had not been made. Nain Singh mentions that on this road one stream is crossed no less than fifty-five times. The road which we followed to Dewangiri opens earlier and we passed numbers of traders and pilgrims who were going down, but owing to the heat they prefer not to arrive before January, and some intended to remain a month in Bhutan, while others were bringing more merchandise down than could be carried on their transport mules and were sending back mules at each stage to bring the balance on, thus travelling very slowly. On the road from Dewangiri to the plains we were obliged to ford one stream 32 times, but a good mule road is now being made here. There is a place of pilgrimage near Gauhati called in Tibetan Tsam Jo Trung which the Delai Lama visited when in India. People whom we met, who had been there, told us that since the railway had been completed to Amingaon it was easy for them to visit Buddh Gaya, Benares and other holy places, pilgrimages which formerly entailed a long sojourn in India. The Dzongpön at Trashigang in Bhutan collects a tax of 1 *tanka* on each animal and $\frac{1}{2}$ *tanka* on each man who crosses the suspension bridge near this Dzong. These people are traders and pilgrims. There is no tax for the return journey. We found that the Assamese villages near Dewangiri were known to Tibetans by another name. Komri Kata was called Baksha, Tambalpur was called Ali Gyatram, and Rangiya railway station was known as Rong Hai.

CHAPTER XVI.

MINERALS.

Sulphur is mined from the cliffs near Kumang below Gyala. Specimens of the rocks from the mine are described in the geological appendix.

Iron is smelted from bog iron ore in the Yigrong valley in Po me. Captain Morshead visited the mine; he went some 150 feet into the hill, when they told him he was about a quarter of the way to the end of the mine. Samples of the ore have been presented to the Geological Survey Department. It is smelted in the following manner: A stone hut about 10 feet square is built having one small opening on each of two opposite sides, and a hole or chimney in the roof. The building is filled with wood and charcoal, the door is built up and ore put in at the two openings. Bellows are built into the openings which are closed up. The fuel is lit and the bellows are worked continuously for 24 hours, three men working at each in reliefs. The house is then opened, and a lump of iron found at the mouth of each bellows. We did not see this actually being done, but it was explained to us.

There are some lead mines near Kyimdong which are mentioned by Kintkup. The people told us that the mines were nearly worked out and that very little metal was obtained from them now. The ore is smelted with charcoal.

We found gold being washed from the stream flowing west from the Pu La and also in the upper waters of the Char which flows east from the same pass, and in a few places in this valley as far down as Sanga Chöling. The people work in pairs. They dig a channel about 4 feet wide in the bed of the stream beside the watercourse, which they join up to the stream a hundred yards or so further down. Water is then turned into this and the people standing in the water up to their knees dig a deeper hole in the channel and bank the gravel into a dam across the channel over which the water flows. Slabs of turf about 15" x 8" x 1" have been cut and these are laid on the dam and the gravel from the hole above the dam is placed on these turfs and gradually washed downstream by the water, but, in passing over, the heavier gold sinks and is caught among the grassy fibres of the turf. As the gravel from above is passed over the turfs the whole dam is gradually moved downstream until the whole channel has been washed over, when a fresh channel is dug. The sods of turf are washed twice a day to remove the gold. This is done in a wooden pan about 3 feet by 1 foot, the middle of which is hollowed out to fit the size of the sods used. After the turf has been well washed it is removed for use again, and in the hollow in the pan is found a fine black gravel mixed with grains of gold. It was at this stage that the sample described in the geological appendix was collected. This concentrate is again washed by hand in a small wooden bowl, and afterwards more finely washed in a tin. They say that nuggets are never found. The washers work from the third to the ninth or tenth month (April to November or December), according to the severity of the winter. They work in parties four or two and two men recover about 1 *Sershogang* (82 grains a month). This works out at considerably more than the sample assayed which may be assumed to be the result of an unfortunate day's work. At the Tokjalung gold fields near Gartok in western Tibet 1 *Sershong* was worth for Rs. 11 to Rs. 12 in 1904. Twenty families from among the Lhagyari subjects are sent out each year to procure the gold, and they are obliged to produce a certain amount in the season; if they exceed this amount they may keep the excess, but if they cannot obtain the required quantity they are fined. This is considered as one of the taxes which certain villages pay the Lhagyari chief.

Near Tungkar Gompa a shiny black deposit appeared on the rocks in the bed of the Tsangpo below high flood level; this proved to be caused by a mixture of the oxides of manganese and iron and is described in the geological appendix. The deposit appeared suddenly at different points on both banks of the river and gradually faded away a couple of hundred yards downstream.

CHAPTER XVII.

MILITARY.

1 *Poba troops*.—The Pobas keep no standing army and in their first fights with the Chinese only turned out about 500 men, but later more were enlisted. They have the reputation of being good fighters, and from the accounts we gathered of their fighting with the Chinese the reputation is well earned. They certainly have

a good deal of pluck and spirit and expressed contempt for the way in which the Tibetans had allowed the Chinese to enter Lhasa, comparing the resistance offered at the capital to that which they were able to show. Although the Chinese have killed all their officials and destroyed many villages, they will find that the resistance offered, should they again enter the valley, will be as great as before, and the Pobas are full of confidence now that they have a number of Chinese mausers. These rifles are probably made in China, having Chinese characters stamped on the butt, though there are English numbers on the backsight. They appear to have plenty of ammunition, as the Nyerpa spent one afternoon with us firing his rifles at a mark. We passed several places where the Pobas had fought the Chinese; the Pobas had selected favourable points on the road and had built and concealed their sangars well. At one place the sangars were built so that the Chinese would walk past them without seeing them, when they could be fired at from the rear as well as from in front. The Pobas appear to be superior in tactics and in fighting qualities to the Tibetans we met in 1904. Accounts of their fighting against the Chinese which will give an idea of their methods are related in Chapter XIII. Except in the Po Tsangpo valley the roads are not passable for pack transport. Bridges, except over the Tsangpo in Pemakö, are usually built on the cantilever principle. There was a very fine one at Showa 150-foot span and guarded by block houses. There are no boats in the country except on the Yigrong Tso, where we crossed by a ferry on the 2nd July. There are cane bridges over the Tsangpo at the following places: (1) Below the junction of the Po Tsangpo with the Tsangpo. (2) Below Payü village. (3) At Pangshing. (4) A short way below Pangshing. (5) A cane suspension bridge near Tamu below the junction of the Shümo Chu with the Tsangpo. There are others further downstream which we did not see though the Abor Survey Party must know of them. Numbers 1, 2, 3 and 4 are swinging rope bridges of the Mishmi pattern. There is a long stretch of some 42 miles by road between Nos. 4 and 5, where there is no means of crossing. There are no ferries below Gyala.

2. *Lhasa Army*.—The Tibetan Army is now being organised by two Japanese officers who are said to have come up from India disguised as mule-drivers. The new scheme is not very different from the old. Ten men are commanded by a *Chupön*, 100 by a *Gyapön*, 500 by a *Rupön* and 1,000 by a *Depön*. The commander-in-chief of the whole Army is the Kalon Lama, a monk who is said to be distinguished by having a long beard, an uncommon feature with Tibetans. He is now commanding the Army which is facing the Chinese in Kham. The soldiers of the Regular Army are paid 30 *tankas* (Rs. 7-8-0) a month and receive 30 *tre* of *tsampa* a month as a ration; some of them, however, are not paid at all. There are also said to be about 300 Chinese who were born in Tibet and who are helping the Tibetans in their Army. Some of these have been made drill instructors under the Japanese officers. The Army now has plenty of Chinese and Russian rifles which are being imported from Sining. The Chinese rifles are said to jam after firing two or three shots, but the Russian rifles are better. They have also got five or six machine guns and a similar number of mountain guns which, according to some accounts, are being worked by Chinese deserters, but from other accounts it appears that the Chinese made them useless before they left Lhasa. At Tsöna we met a young officer of the Army, the Tana Tungkor, who was one of the Dzongpöns of that place. He represented a quite new type of Tibetan. He showed us with some pride his khaki uniform and sword which he admitted was not as useful as the sold Tibetan type of weapon, but which the officers now carry as a mark of rank. He said that in the fighting in Lhasa the Tibetans did very badly through ignorance, but now that they had been taught the elements of modern warfare by the Japanese instructors, they realised that even the Chinese who fought in Lhasa knew very little and that if the Chinese were to return, they would find a very different army to fight against which would be better drilled and trained than the Chinese, and would be eager to prove their superiority should the Chinese again reach Lhasa. The Tana Tungkor had distinguished himself in the fighting at Lhasa against the Chinese; he was only 22 years of age.

3. *Ferries on the Tsangpo*.—The following are the regular ferries over the river in order upstream. Skin coracles could be found in most villages near the

river. Below Gyala there are no ferries, but there are the bridges mentioned in paragraph 1 above.

1. Gyala.—There is also a rope bridge.
2. Pe.—A wooden boat.
3. Tamnyen.
4. Chamna.
5. Tokar.—Wooden boat.
6. Tanga.
7. Sengpo.
8. Tü.—A wooden boat.
9. Tro me (in winter only).—Skin coracles.
10. Tra (in winter only).—Skin coracles.
11. Re (in winter only).—Skin coracles.
12. Tungkar *Gompa*.
13. Nang Dzong.
14. Tromda.—Skin coracles.
15. Rongchakar.—A large wooden boat. In summer this ferry is moved to Changdang 2 miles below Rongchakar.
16. Nyengo.—A large wooden boat, 2 miles below Tsetang.
17. Girba.
18. Dorje Tra.
19. Penza.
20. Chaksam.

} These four ferries are above Tsetang. Chaksam is
where the force crossed in 1909.

Where there are wooden boats the transport of animals is easier as the animals stand in the boats; to get animals across in coracles it is necessary to tie their feet together and to throw them on their backs in the coracles, as otherwise their feet would pierce the leather.

The main routes from India into the country reported on are (1) up the Dihang river, (2) from Odalguri to Tawang, and (3) from Dewangiri either to Tawang or up the Nyamjang valley by the road described in this report. The roads from Dewangiri pass through a part of Bhutan. Besides the above there are various roads which lead from the Lopa countries to Tibet, either over the ranges or up the rivers which break through. These roads are without exception difficult and only open for a short time in the year, in the case of the passes on account of snow, and in the case of the valleys owing to the size of the rivers. Reference is made to these roads in Chapter XI.

CHAPTER XVIII.

CLIMATE.

A note on the weather for each day is entered in the diary. A better idea of the climate than is furnished by this can be deduced from the general appearance of the country, the vegetation, crops, irrigation and form of house built by the people.

The country in Po me, at Lunang and near Pemaköchung is typically wet and the cultivation unirrigated and with dense forest on the hills varying in type with the altitude.

The rainfall is very heavy at Mipi in the Mishmi hills where some Poba subjects are living. On crossing the Yongyap La and Pungpung La country is reached with a gradually lessening rainfall as might be expected. This is reflected by the snow line on the passes. In May on the Yongyap La it was at about 9,300 on the south face and 11,300 on the north, while on the Pungpung La the lines were about 10,500 and 12,000 under similar conditions. We found that the climate of the Tsangpo valley in Pemakö was dryer than that of the Dibang, and that of the

Po Tsangpo still dryer, though all these valleys are wet when compared to the regular Tibetan climate. In Po me we were told that the heaviest rain fell in July.

At Gyala the crops are unirrigated and were suffering considerably from drought at the time of our visit. Above Gyala the rainfall becomes less and the jungle rapidly thins out till at Pe we find a dry climate with crops of wheat and barley which require irrigation though the houses still have pent wooden roofs. The hillsides here are bare below or covered with small bushes but higher up they are covered in forest, especially on the south bank which does not face the sun. It also appears that the rainfall is greater on the north bank of the river, especially at the mouths of valleys leading up to the snowy range to the south. Flat mud roofs denoting a still dryer climate commence near Dongkar *gompa*. The district of Tsari is very wet, which is peculiar as the Tsangpo valley to the north and the Char and Chayul valleys to the south are dry and require irrigation for the crops.

The country round Mago and in the Nyamjang valley below Rang and all the district of Mönnyul south of these places are again wet, but though close to the plains these valleys cannot have nearly such a heavy rainfall as the Dihang and Dibang valleys further east or of Sikkim further west. The climate of eastern Bhutan is similar to that of Mönnyul. We were told that the climate at Lingtsi in the Trashiyangsi valley north of Trashigang was much wetter than that of Trashigang itself. Very little snow falls in the Tsangpo Valley above Pe, but there is a good deal on the passes both north and south of the river.

We took hourly readings of a thermometer and of two aneroids during our two days' halt at Showa which are given in Captain Morshead's report.

CHAPTER XIX.

GLACIERS.

We found five glaciers on the northern slopes of Namcha Barwa, and were told that there was a sixth at the head of the Puparong valley on the southern face. Of these we visited two, the Trilung and Sanglung glaciers. We spent some time on the former and found it to be about $\frac{1}{2}$ mile wide, a mile from the snout. The whole was covered with earth and boulders, some of the latter being from 10 to 15 feet across. The surface was cut up into hillocks and valleys 50 feet in depth, at the bottom of which in many cases was a pool of water: very little ice was to be seen, and this only where the débris had slipped on the side of a steep valley. Larch and birch trees about 10 feet in height were growing on the glacier. A stream flowed down the left edge of the glacier between it and the forest-covered bank. The altitude above sea level at the foot of the snout was 11,400 by hypsometer. For two hundred yards below this point the stream bed was covered in boulders which had evidently been brought down by the glacier. Below this again large fir trees were growing on the old moraine. At the end of the glacier the ice was formed in several terraces or steps, each covered with rubble and evidently formed by whole sections of the ice being undermined and slipping down vertically. The height of the ice wall at the snout was 250 feet measured with an aneroid. The snout was concave, the ice reaching further down stream on either side than the point where the stream issued from under the ice. At the time of our visit in the middle of July blocks of ice which had been broken off the glacier were lying at the foot of the snout and boulders from the moraine were continually slipping down. The boulders on the moraine were all angular with the corners and edges recently chipped as though they have been rolled about together. On the moraine near the snout were several enormous rocks, one of which was about 60 feet in length. We did not see any of this size further up on the glacier.

A second glacier that we visited was the Sanglung which in general character was similar to the Trilung. Two miles up for the snout we could see that the ice was not covered with moraine but was much cleaner and appeared to be standing in vertical pillars. This glacier had much less vegetation on it than the Trilunge. At one place on the moraine we found a patch covered with water-worn stones

evidently from the bed of some stream but most of the moraine consisted of angular blocks of gneiss and mica schist. The altitude of the snout of this glacier was 9,030 feet in about 29° 45' N. latitude.

A glacier in three branches also comes out from the southern slopes of the Gyala Peri range near Sengdam. This we saw from the opposite side of the valley. The east and west branches were covered with moraine, while on the centre branch the ice was exposed and appeared to be very dirty. We noticed that the ice of the western branch was stratified with the strata curving up at the sides.

On the Shagam La, one of the passes on the Tsari pilgrimage, the road passed over what appeared to be the lateral moraine of an old glacier, but in some places where the rocks had slipped it was seen that there was glacial ice under the piles of boulders. This glacier had its origin in the pass and did not appear to flow from a large snow peak as did those on Namcha Barwa and Gyala Peri. Near the pass the ice was bare and here were crevasses as much as forty feet deep.

CHAPTER XX.

KINTHUP.

Kinthup in company with the Chinese Lama who had been trained by the Survey of India crossed the Donkyia La in northern Sikkim on the 7th August 1880, and made his way to Lhasa *viâ* Gyantse. From Lhasa the two explorers went to Tsetang the first point at which we struck their route. From Tsetang they followed our road to Rongchakar from which place they took the direct road to Lhagyari. From here again they followed our road *viâ* the Putrang La and Kongbo Nga La as far as Shu at the mouth of the Kyimdong Chu. His description of the country up to here is generally accurate, but both here and on all his routes which we were able to check we found that he consistently underestimated his distances. Of Pari Chôte (Pari-Choide) he says that "Many traders called 'Golokpas' come with large herds of yaks to trade and annually visit this place in the months of October and November with merchandise chiefly consisting of salt and wool" We could find no confirmation of this; Pari Chôte is a *gompa* and no trade mart is held there. It is possible that he has mixed this up with Tsöna or some other trading centre. The following places on this section of his route we were able to identify, his names for which are given in brackets where they differ from the names which were written for us; Takpo Tratsang (Dakpu Dongpa), Talha Kambo (Dakpu Dala-Kampu), Nang Dzong, Pari Chôte (Pari Choide), Kongbo Nga La (Kong-Bunya-La), Tungkar Gompa (Dong Kargon). We found that he had exaggerated the difficulties and danger of crossing the Kongbo Nga La. The two explorers spent some days in the Kyimdong valley begging and here they remained in a village for four months owing to the Chinese lama "falling in love with his host's wife". After this trouble has been settled they continued their journey down the Tsangpo, but for part of this way were on the opposite bank to that which we followed so that we were not able to understand their route exactly, though the total distance to Temo (Dehmu) where our routes again coincided was as usual underestimated. From Temo they went down the left bank of the Tsangpo passing Sang and Timpa, which Kinthup calls Cho-Lhakang and Guru Chokang, respectively, these being the names of temples near the villages. From Timpa to Gyala we estimated the distance at 23 miles while Kinthup only gives it as 5; it is probable that here, as at other places, when he related his story more than a year after the journey was performed he forgot several days' march. From Gyala we went down to Sengdam where he mentions that a waterfall drops from a height of about 100 feet into a stream. From the opposite bank of the Tsangpo we saw this waterfall which was on an insignificant stream. From here they went to Götsang Drupu, a place just below Sengdam, which we also saw. They were then obliged to return to Gyala as they could find no road down the left bank of the Tsangpo. Kinthup's description of Gyala is accurate. They then went down the right bank of the Tsangpo to Pemaköchung sleeping in a cave at Nyuksang (Nyuk-Thang), which we also occupied. Of Pemaköchung he says "The Tsangpo is two chains distant from the monastery and about two miles off it falls over a cliff called Sinji-Chogyal from a height of about 150 feet.

There is a big lake at the foot of the falls where rainbows are always observable." The falls near Pemaköchung were seen and are described in Chapter II; there were rainbows in them at the time of our visit. Kinthup has of course exaggerated the height but from the name Sinji-Chogyal it is apparent that he has confused this fall with that of a tributary at Gyala which falls in a series of cascades in one of which a god Shingche Chögye is said to be visible in winter. This stream falls into a broad still stretch of the Tsangpo, which, however, could hardly be called a lake. Kinthup and the Lama remained three days at Pemaköchung in search of a road, but, failing to find one, they returned up stream to Temo from which place they crossed the Temo La and reached Lunang where our routes again coincide. From Lunang they went to the bridge near Tongkyuk Dzong where they were stopped at the guard house. The Lama went to the Dzongpön and obtained permission for them to cross the bridge and the two stopped at the Dzong for some days after which the Lama left saying he would return shortly. Kinthup discovered, however, that the Lama had sold him as a slave to the Dzongpön and had decamped. After nearly ten months of slavery Kinthup managed to escape and spent his first night sleeping under an isolated rock called Namding Pukpa lying on a flat part of the valley which was pointed out to us on the road. He then went on to Trulung which he calls Poh-Toi-Lung, from which point he crossed a spur and joined the Tsangpo below the junction of the rivers. He states that the distance from Trulung to the junction is 14 miles. He then crossed the Po Tsangpo 1 mile above its junction with the Tsangpo and reached a place called Dorjiyu Dzong about which we could find out nothing, though some people said that they had heard of it. From here downwards his account is very confused. He says that he crossed the Tsangpo to the east bank and reached Pango. This is a village through which we passed and it is on the west bank of the river. The distance according to Kinthup is 3 miles from Dorjiyu Dzong and 6 from the point at which he crossed the Po Tsangpo, 1 mile above the junction of the rivers. Here again he must have omitted several days' march as the distance from Pango to the junction of the rivers at Gompo ne is about 5 days' march. From here down to Tambu, where our routes again come together, Kinthup for some reason did not take the direct road down the left bank which we followed but crossed the river to Puparong. The distance from Pango to Tambu we estimated on $49\frac{1}{2}$ miles while Kinthup only makes it 17, and it is probable that here again he got confused in relating his story so long after the journey had been made. Below Tambu we did not go, but the list of villages given to us by a man who had travelled down into the Abor country is very similar to that given by Kinthup. The Tibetans of Pemakö say that Miri Padam is a large and important village of Abors which is built across a valley the houses on one bank being called Miri and those on the other Padam. We did not meet any one who had actually been to this place but it was well known to the people. We found that all along this frontier the Tibetans had names for Lopa villages which the Lopas did not know and *vice versa*. After leaving Tambu Kinthup went to Marpung, where the man sent by the Dzongpön of Tongkyuk to arrest him arrived. Kinthup persuaded the Lama of Marpung Gompa to buy him from the Dzongpön for Rs. 50. He then obtained leave and, going down to Giling, he cut 500 logs and hid them in a cave and returned to his new master the Lama of Marpung but soon obtained leave of absence to perform the Tsari pilgrimage. He crossed the Doshong La to Pe and went up the Tsangpo as far as the junction of the Kyimdong Chu up which he travelled to the Bimbi La after crossing which he struck our road at Pödzo Sumdo (Bhodo Samdo) in Tsari. From this place we went down stream and climbed up the mountains to the holy lake Tsokar which is above the left bank of the Tsari Chu near Migyitiin. He then returned to Pödzo Sumdo and continued up the river to Chikchar from which place he followed the pilgrim road round to Chösam (Chazam). He gives a good description of the Tsari pilgrimage and adds some interesting legends. From two of the passes on the pilgrimage he states that he could see the plains of India and also the town of Tsöna. In these statements he is inaccurate, and it is impossible to say what he can have seen to give him this impression, as at the time when I travelled over the pilgrim road heavy clouds hindered the view. From Chösam he went up the valley and crossed the Kongmo La (Gongma La) to Trupchuka which he simply calls "Jik-yop", a name given to rest houses on the passes about here. From here he made

his way to Tsetang by a route which it is difficult to understand. From Tsetang he went to Lhasa whence he sent a letter to the "chief of the Survey of India" to say that on certain dates he would throw his logs into the river. He then travelled from Lhasa by a route north of the Tsangpo which passed through Gyamda to some point on the north bank of the river above Chamna, whence he retraced his steps to his master at Marpung who gave him his freedom on account of his piety in visiting sacred places. He then went down to where he had hidden his logs which, in accordance with the letter he had written from Lhasa, he threw into the river. Unfortunately this letter was never received and the logs were never seen in India. After this Kinthup went down the river through the Abor country as far as Onlet, a village which has not been identified. He then retraced his steps to Darjeeling *via* Lhasa. The account of his travels was taken down by Ugyen Gyatso a trained explorer. Kinthup was illiterate and his story was told from memory more than 4 years after his journey commenced. This being so it is not surprising that he has made some mistakes and that on several occasions he has omitted complete marches. The surprising thing is that he was able to remember so much about his journey which has given us the only knowledge we have had of that country for thirty years.

CHAPTER XXI.

CONCLUSION.

With the exception of a few names near Mago where the people were illiterate, all names on the map have been transliterated from the Tibetan spelling. As regards this report the same cannot be said but all places which were visited, as well as many others mentioned, were written out by literate Tibetans, usually by the local official or his clerk. It is only on the authority of the Tibetan spelling that any of the names given the places by the old survey explorers have been changed, and it is hoped that the necessity of changing names of well known places such as Tsetang and Tsöna will not cause inconvenience.

At three points on the journey Captain Morshead was able to obtain accurate trigonometrical altitudes with the theodolite. These heights, where referred to, are taken to the nearest unit. Heights taken with the hypsometer are taken to the nearest ten while heights taken by the mean of two aneroids, checked where possible by the nearest hypsometer reading are to the nearest fifty. Details of the altitudes are to be found at page 13 and in Appendix II of Captain Morshead's report.

Our thanks are due to Major Bliss, C.I.E., who was in command of the troops with the Dibang Survey party and to Captain Nevill, the Political Officer with the party, for the assistance they gave us in our start from Mipi. Had we not been able to stock rations and clothing in Mipi preparatory to this journey the scheme must have broken down at the beginning, as the poor village of Mipi could not have fed our party until the passes opened and until we could reach the first village north of the pass. The same may be said for the arrangements made by these officers to supply us with money and clothing for the journey. The greatest credit is due to the seven coolies who eventually reached Calcutta with us. They were forced to accompany us after they had just completed five months' hard work in the Mishmi Hills, and when they were counting on a speedy return to their homes, and during the whole six months of their subsequent work gave us every assistance and no trouble. The expedition itself suffered in many ways from a want of preparation. It was got ready at the furthest advanced base of the Dibang survey, after our equipment had had six months' rough camp use in the heavy rains of the Mishmi hills and when we were expecting to return to India; we had no time to renew any thing or to obtain many necessaries from India.

I was extremely fortunate in having Captain Morshead as a companion. It was he who really had the hard work of the expedition; he was obliged to travel slowly in all weathers with his surveying instruments which had to be carried on coolies while I could ride ahead and reach camp early if I so wished and he was frequently benighted when we marched long distances. Our spheres of work were quite distinct but on the occasions on which we separated he took great pains to bring in route reports and general information about the country in addition to his map.

APPENDIX I.

DIARY AND ITINERARY.

Diary.

The main column of the Dibang Survey party left Mipi, the Tibetan village in the Matu valley on the 4th April 1913 in order to complete the survey of other branches of the Dibang. It was reported that the passes to the north would not be open until the beginning of June, so rations for the proposed exploration party were left in the village. Towards the end of April the rivers commenced to rise and the Mishmis were of opinion that the temporary bridge over the Matu river below Mipi would not be standing, so with a party of coolies I crossed the Dri at Epalin and, taking some Mishmi guides from Epalin, the party cut its way through the forest up the right bank of the Dri and Matu rivers for 5 days when Mipi was reached on 25th April. This road had not been used since the Tibetans had entered the valley some seven years previously, owing to the unfriendliness between the Tibetans of the Upper Matu valley and the Mishmis lower down. At Mipi I was given a cordial reception by the people. After our departure from Mipi on the 4th April the Lamas had been consulted as to the advisability of our making the journey, and the omens having proved favourable the people were anxious to help us. From Mipi to Chimdro the first village reached after crossing the passes in a distance of nearly a hundred miles during which no supplies of any kind can be obtained and the necessity of carrying food for the whole party for this part of the journey greatly curtailed our carrying capacity. We consequently decided to place supplies at the foot of the pass some five days' march from Mipi. We had intended taking the road *viâ* the Andra La as that pass was said to be open sooner than the Yongyap La which we eventually crossed; but we found that sudden and unexpected floods on the Andra Chu had carried away the bridges on that road, so, on my arrival to Mipi, I at once commenced sending rations up the Yongyap Chu which were to be placed as near the pass as possible. Owing to deep snow they were only able to reach Sumdo a hut 16 miles from the summit of the pass. By the 7th May rations had been placed partly at Sumdo 35 miles from Mipi and partly at Abgya Pukpa, a cave 23 miles up the road from Mipi. In the meantime I had remained in the neighbourhood of Mipi shooting. I was fortunate enough to get a takin and saw many pheasants of several varieties besides tracks of bears, goral and tigers. After supplies had been placed at these stages up the road I returned to Mipi on the 8th May with the coolies, to await the arrival of Captain Morshead, R.E., who was surveying on a hill some distance down the valley. While waiting for him a party of Mishmis from the Enra valley arrived to trade; they are the only Mishmis who are on sufficiently good terms with the Tibetans to enter their country and relations even with these are somewhat strained; both sides say that they are owed quantities of goods on account of old trading transactions. No money is used in this trade which is carried on by barter. Captain Morshead arrived on the 13th May with some more coolies bringing the number up to ten. We now obtain from Gyamtso the headman of Mipi a letter of introduction to the Dzongpön of Chimdro the first official we were to meet after crossing the passes. Gyamtso had some trouble in persuading guides to accompany us as we were attempting the pass too early in the year but eventually three men agreed to come. The monks at Mipi held a special service on the 23rd instant in order that we might have fine weather on that day when we expected to be crossing the Yongyap La.

16th May, Basam 10 miles 5,600 feet.—I left Mipi for this place to-day where I found Captain Morshead who had arrived yesterday. The road crosses the Andra Chu by a large fallen tree $1\frac{1}{2}$ miles from Mipi and goes up the right bank of the Anzong river just before reaching camp the Yongyap Chu is crossed by a cane suspension bridge. We stopped in a hut. A little rain.

17th May, camp $6\frac{1}{2}$ miles, 6,500 feet.—I came up the left bank of the Yongyap Chu through thick forest. Leeches and ticks were bad. Captain Morshead did not arrive in the evening though all his kit was with me. A little rain.

18th May.—I went back to look for Captain Morshead and found that he had taken a road up the right bank of the river and had been obliged to sleep out under a rock without food. Rain all night and all day.

19th May, Abgya Pukpa, 6½ miles, 7,400 feet.—Our road was still up the right bank of the Yongyap Chu. We camped under a large overhanging rock. Here we found some of the rations which had been sent up the road previously. Heavy rain all night and all day.

20th May, Shakang, 5½ miles, 8,150 feet.—2¾ miles from camp we reached a large stream which we had some trouble in crossing. It is liable to sudden floods when it cannot be crossed, so we sent our coolies back from the stream to bring the rations from Abgya Pukpa and place them north of the stream in order that we might be certain that we should not be cut off from them by a sudden flood. On the road we passed human bones in many places, traces of the disastrous retirement of the Tibetans who first came into this valley some seven years previously. There were no leeches on the road to-day; they had been very troublesome up to Abgya Pukpa. We camped in the forest. A fine morning but rain in the afternoon and evening.

21st May, Sumdo, 7 miles, 9,150 feet.—Our road to-day was partly marshy through thick undergrowth of bamboo. We had to cross one large stream over a felled tree. All large streams here are bridged in this way; after some time the bark rots off the tree and the trunk is then so slippery when wet that it cannot be crossed; the people then fell a fresh tree. At each of these primitive bridges there are always several of the old slippery tree trunks near by which can no longer be used. Here we stayed in a hut where we found the rations that had been sent up the road. There was a little snow in patches; there has been deep snow here at the beginning of the month. There were number of pheasants here. A rainy afternoon.

22nd May, Sumdo.—We sent six of our loads up the road to the next camp Latsa and sent back coolies to bring up the rations which we had left on the road on the 20th instant. Rain most of the day.

23rd May, Sumdo.—Our coolies returned from Latsa where they had placed our rations in a hut; the coolies who had been sent down to bring up rations also returned. This is the day on which we expected to cross the Yongyap La and on which the monks at Mipi were to arrange fine weather for us, but they were not successful as it rained all day.

24th May, Yongyap Latsa, south, 12 miles 10,600 feet.—At Sumdo we had to cross a large stream by a narrow and rather slippery tree trunk but everyone managed it successfully. The road went up the stream and was bad and marshy in places. The last half was over snow. We camped at a small hut in about two feet of snow. We saw many pheasants on the road but our guides asked us not to shoot as, if we did so, heavy rain would fall. Here we found the rations we had collected but there was an unaccountable shortage. We had intended waiting here several days and attempting the pass on the first fine day but now we found that our rations would compel us to move by the 26th instant at latest. Rain all day.

25th May, Yongyap Latsa, South.—Rain fell all day, with a little snow in the morning. Our guides told us that there would be a great deal of fresh snow on the pass.

26th May, Yongyap Latsa, North, 10 miles, 11,300 feet.—We were obliged to start in rain this morning as our rations would not admit of another day's delay. Our road was at first over hard snow through fir forest for about 2½ miles. Trees were then left behind and we crossed a mile of flat snow, after which we had a difficult climb of 1,200 feet in soft snow, which took us over three hours. Rain fell the whole time and near the summit we were in thick clouds and were obliged to wait while men went forward to find the pass. Water boiled at 193.1° giving an altitude of 13,020 feet. From the pass we had a very steep descent over snow down which avalanches had formerly come. We ourselves started several and some of us were carried down with the slipping snow but with no unpleasant results. After this steep descent we travelled over comparatively flat hard snow gradually entering fir

forest. We continued down the valley until we were below the snow line when we camped. There were one or two huts above our camp, but they were under snow. The pass is quite clear of snow in July, August and September. Rain all day.

27th May, Yongyap Latsa, North.—As we were about to start we found 4 of our coolies and one of the Tibetan guides snow blind; as the weather had been cloudy they had not troubled to wear their veils with this result. There was no possibility of their being able to move so we were obliged to halt. This upset our calculations regarding rations and we were only able to issue half a ration per man. Heavy rain fell in the morning which later turned to snow. Our guides told us that this was a good sign and that we should now have fine weather. They proved correct in their forecast and after half an inch of snow had fallen the sky cleared and we saw the sun for the first time for several days. Captain Morshead took an observation for latitude in the evening which worked out at $29^{\circ} 16' 43''$.

28th May, Yongyap Da, $8\frac{1}{2}$ miles, 10,590 feet.—We marched down the right bank of the stream through forest. In places the valley was flat and marshy, river flowing sluggishly. We camped at the point at which the Rirung Chu joins the stream which we had followed from the pass yesterday, which is here called the Yonyap Chu; further down near its junction with the Tsangpo where we were to cross it on the 8th June it is known as the Shimo Chu. There is no road down this river to the Tsangpo valley, and this part of our road was consequently cut off between the Yongyap and Pungpung passes and the impassable valley down to the Tsangpo. There is great danger in attempting the road too early in the year as no food is obtainable in this valley, and should a spell of bad weather close the Yongyap and Pungpung passes the traveller is quite cut off from all supplies. Within the last few years this misfortune has overtaken two parties of Tibetans; they were obliged to travel down the valley to the Tsangpo, the journey owing to there being no road and many cliffs, occupied ten days during which time no food of any kind was procurable. On both occasions some members of the party died and the survivors reached the Tsangpo valley on the verge of starvation. The pilgrim road from Chimdro to the holy Mountain Kondü Potrang passes through Yongyap Da, and there were the remains of two cantilever bridges over the Yongyap Chu near our camp which are repaired annually when the pilgrims cross. We camped at a hut built on a deposit of sand some twelve feet thick which was brought down by a flood from the Rirung Tso seven years ago, and which cleared off the forest at this point leaving a large open space. A cloudy day but without rain.

29th May, Damle 9 miles, 12,000 feet.—We went about a mile up the Rirung Chu when we reach a narrow lake about $1\frac{1}{2}$ miles long, the Rirung Tso (10,800 feet) along the edge of which our road lay. At the northern end of the lake we left it and followed up the Pungpung Chu, a stream flowing through fir forest; as we ascended we gradually got into snow and at the camp it was lying about two feet deep. We passed several huts on the road. A showery day.

30th May, Gyayö Pukpa 8 miles, 11,100 feet.—We started in pouring rain; at 5 A. M. our guides told us that we might not be able to cross the pass and get below the snow level on the other side unless we started early. The road was over deep soft snow and after travelling $3\frac{1}{2}$ hours we reached the foot of the Pungpung La from which point a stiff climb of a thousand feet in $2\frac{1}{2}$ hours brought us to the summit where a boiling point observation gave a height of 14,300 feet. On the northern side of the pass there are a series of cliffs so that it is impossible to descend at once; from the pass we went along the hillside to the right for one mile rising slightly, and then descended steeply over snow on which we started several avalanches, we then reached the lower end of a lake, the Tso Kata 13,200 feet above sea. We then entered a gloomy gorge the road being over hard and very steep snow. One of our men slipped on this and was carried down 150 feet when he luckily saved himself by catching a bush, had he not done so he would have been carried right down to a cliff and must have been killed. Later we left this snow and entered the forest and camped at a large rock against which a shed had been built. We were told that it is dangerous to cross the pass in bad weather when there is no track on the snow as if clouds obscure the near view, it is difficult to find the only gap in the cliffs which form an almost

continuous line below the pass on the north side. We were nearly 12 hours on the road all except the last mile being over snow. We had some rain, and a little snow fell near the summit of the pass.

31st May, Chimdro 13½ miles, 6,450 feet.—Our road lay through forest down the stream which rises in the Pungpung La. The road was difficult in places as it went across the faces of land slips. After travelling 11 miles we reached the village of Kyureden and half a mile further came to the Chimdro Chu which we crossed by a bridge. Here we were met by a representative of the Dzongpön. We had sent one of our guides on early in the morning to warn him of our arrival. We were accommodated in a small house near the Dzongpön's quarters which were in the lamasery. This valley is well cultivated with several villages; the people keep a number of ponies and some very fine cattle. The only road out of the Chimdro valley which is passable for ponies is that over the Chimdro La leading to Dashing in Po me and even this road is closed by snow in winter. There are several other roads into the valley of the Po Tsangpo and also a bad road to Rima. The crops were well grown and the people said they would cut the barley in a fortnight though the maize crop is more backward. Rice does not grow but is imported from Pemakö. The tops of the hill above the cultivation were clothed in forest. Leeches and ticks were troublesome on the road. A showery day.

1st June, Chimdro.—We called on the Dzongpön an incarnate lama known as Pongle Lama he promised to give us transport when we went on. Last year the Dzongpön was Gedrun Rimpoche an incarnation now living at Riwoche in Kham who had lived for some time at Mipi. We gave medicine to a number of sick people here. We met a native of Batang who had come from Rima via the Kangri Karpo La and who told us that the road was very bad and difficult to find. One of his party had died from exposure on the way. A little rain.

2nd June, Chimdro.—I went to see the Dzongpön and showed him photographs of Mipi and of the Tibetans there many of whom he recognised. He told me that he had lived for two years at Yösa Gompa in the Rong tö Chu valley; this is probably Isa tö or Isa me which are mentioned by A. K. who says that it is 46½ miles from Rima to Isa tö. After my visit I went to the temple where I witnessed a religious ceremony in which the Dzongpön in his religious capacity took the principal part. There was also another incarnate lama present, a boy of about ten. Captain Morshead went some five miles up the valley to the village of Shingki to get some of the country in that direction mapped. In the evening the Dzongpön sent a messenger to ask us to go and see him. He had just received news of the arrival of the Abor survey party at Kopu. He had heard that many hundreds of men had arrived and was very nervous, his only previous knowledge of foreigners being derived from what he had seen of Chinese methods. In reply to his anxious enquiries I told him that it was improbable that we should station officers in Po me but that an officer would probably be posted at Walong on the Zayul frontier and that the Mishmi territory, including the land at Mipi, was under us. A rainy evening.

3rd June, Nyapa, 4½ miles, 5,700 feet.—We were obliged to make a short march to-day as we had not been able to buy *tsampa* (flour of parched barley) in Chimdro but only barley. This had to be parched and ground, so we marched to Nyapa where we spent the day in having our grain ground at a water mill. The road crossed the river to the left bank by a cantilever bridge and went down the stream. On the road we had a view down the valley of the large snow peak Namcha Barwa. We are taking within as far as Showa Sonam Chömbi, one of the guides whom we had brought with us from Mipi. He is to act as an agent of the Chimdro Dzongpön to see that we have no trouble with the people, and to get us our supplies and transport. We had a storm of wind and rain in the afternoon.

4th June, Domgyur Pukpa, 8 miles 5,650 feet.—The road was hilly down the left side of the valley through thick forest. We camped at a large cave about 800 feet above the river. In the cave we killed two snakes; the people search the ground for snakes with a torch before lying down. A fine sunny day with no rain.

5th June, Kapu 12½ miles, 4,800 feet.—Our road was rough up hill to a pass, the Tungtung La, a rise of 1,900 feet; from the pass we could see Namcha Barwa, but our view was interrupted by trees. We also saw a snowy range between the Chimdro Chu and the Po me valley. We descended steeply to Kapu village consisting of a few wooden houses with thatched roofs inhabited by Mönbas. Here we heard that the Abor survey party had intended to come up this valley, but the people persuaded them to go into Kongbo *viâ* the Doshong La and another pass instead of coming up the Tsangpo valley. From here we sent letters to the Abor survey party and decided to go some distance down the valley to give us an opportunity of receiving replies if the letters should reach their destination. We also sent a message to Nyerpa Namgye, a Poba official who was at Sayü village two days' march up stream telling him of our proposed movements. Rain fell in the evening.

6th June, Giling, 4½ miles, 3,150 feet.—The road descended 2,000 feet steeply to the bed of the Tsangpo near a rapid; after going over boulders in the river bed it rose to Giling village which had almost been deserted owing to the heavy demands made by the Chinese for transport coolies. We met an interesting and inquisitive party of Mönbas who had seen the Abor survey party at Kopu. They had also seen a wire suspension bridge. They at first thought that we were a party of Chinese on our way down to fight with the Abor party, but were undeceived when in reply to their question we said that we and the Abor party were under the same King. They wished to find out what our relations with the Chinese were and asked if we would at once kill a Chinaman if we met him on the road. Rain in the afternoon.

7th June, Makti, 6½ miles, 3,550 feet.—On the road we passed the village of Meri inhabited by Lopas. Dry rice was growing here, while across the Tsangpo at Pipo we saw terraced rice fields. Makti is a large village of Mönbas the houses are of wood and bamboo with thatch roofs. Captain Morshead took an observation for latitude 29° 24' 25". We had rain in the night and early morning.

8th June, Meto, 12 miles, 4,000 feet.—We went 4½ miles to Bungmo village passing some terraced rice fields. The people here were Mönbas and had prepared a hot meal for us and our servants. Three miles further we descended to a cane bridge of the Shümo river. On the 27th May we had met this river in its upper reaches where it was called the Yongyap Chu. We took an observation for altitude by hypsometer at the bridge which gave a height of 2,620 feet above sea level. Three miles beyond the bridge after a stiff climb we reached Tambu village inhabited by Lopas. 1½ miles further at Meto, a Mönba village, we found a small official, the agent of the Poba queen. Peach, lime and walnut trees were growing here, and there were numbers of mithan, pigs, fowls, and a few sheep. A fine day with no rain.

9th June, Rinchenpung, 4 miles, 6,700 feet.—As Rinchenpung is only a *Gompa* and unable to provide supplies we collected three days' food from the three villages near Meto. Our road led us for about half a mile over the plain in which are the three villages of Tambu, Meto and Hangjo (a Mönba village) we then climbed 3,000 feet on a good but steep road. From the road we had a good view across the Tsangpo and saw several villages on the opposite bank. Rinchenpung is a small *Gompa* with a gilt roof built in a grassy hollow among forest covered hills. It is on the road to the holy mountain Kondü Potrang which at the time of our visit was inaccessible on account of snow; later in the year numbers of pilgrims visit the mountain. Huts for their accommodation are built round the *Gompa*. There are also a few houses in the valley inhabited by herdsmen from whom we were able to purchase milk and butter, but there are no crops. Snow falls in winter and leeches are bad in wet weather. We had heavy rain after dark.

10th June, Rinchenpung.—Rain fell all night and we had a thunderstorm in the evening.

11th June, Rinchenpung.—A thunderstorm in the night. The rainfall appears to be greater here than down in the Tsangpo valley. Biting flies were troublesome here.

12th June, Meto, 4 miles, 4,000 feet.—We retraced our steps on our road of the 9th instant.

13th June, Bungmo, 7 miles, 3,950 feet.—We had passed this village on the 8th. We had heavy rain in the night which brought out the leeches which gave us some annoyance; on the 8th, owing to the dry weather there there had been very few of these pests. The answer from the Abor Survey party was expected at Meto on the 15th; but we decided to travel slowly up the valley and to let it overtake us.

14th June, Meri, 7 miles, 2,950 feet.—We had passed through Meri village on the 7th. Leeches were bad to-day. On the road we met a messenger bearing a letter, which we were unable to make out, from Nyerpa Namgye, a Poba official, who was returning to Showa from Pemakö "Indigo (*Strobilanthes flaccidifolius*) is grown in the valley about here, we had some rain and some hot sun.

15th June, Kapu, 9 miles, 4,800 feet.—About three miles from Meri we reached a stream, the Hering Chu; on the 7th we had crossed this by a bridge, but now found to our surprise that the bridge had disappeared. We had heard that the Pobas intended to turn us out of the country, and our guide Sonam Chömbi and our coolies thought that this had been done by the people by order of the Poba official, and that we should have difficulties placed in our way until we left the country; it transpired, however, that the bridge had been carried away by a flood. We spent two hours in erecting a bridge. When we reached the bed of the Tsangpo we boiled a thermometer; this point was at the level of the junction of the Chindro Chu which we could see a short distance up stream. The height was 2,600 feet. This was the last observation for altitude that we were able to take in the river bed below the gorge. From the river bed we climbed 2,000 feet to Kapu where we had spent the night of the 5th June. We had not been able to read the letter sent by Nyerpa Namgye, and the only man in this neighbourhood who could read was a lama of Giling who had, however, gone up the valley to drive evil spirits out of the crops of Tamu village; a messenger had been sent to call him, and he met us on the road. The letter was very badly written, but with his help we were able to understand most of it. The purport of it was that we should go into Pome *via* Chindro. Rain in the morning with a hot sunny afternoon.

16th June, Druk, 8 miles, 4,950 feet.—We descended 2,000 feet in pouring rain to a cane suspension bridge 100 feet above the Chindro Chu; we then ascended 3,000 feet to a spur called the Atri La (6,000 feet) across the spur, we came into pine trees, a relief from the thick forest in which we had been travelling for some days. Three miles from the Atri La we reach the Lopa village of Druk. A good deal of rain.

17th June, Pangshing, 14½ miles, 3,950 feet.—Our road led us across a spur, the Dabun La (6,500 feet) which was in dense cloud; after descending to below the cloud level we saw several villages on the right bank of the Tsangpo, one, Puparong being some way off up a valley by which a road leads *via* the Nam La to Kyikar village in Kongbo which we subsequently visited on 5th July. After travelling 11 miles we reached Sayü, a Lopa village where we had intended halting for the night, but we were told that Nyerpa Namgye was collecting his transport coolies at Tsenchuk and was on the point of crossing the Sü La; so we changed our coolies and hurried on; we feared that if he left the valley without seeing us he might leave orders to the people that we were not to be given any assistance in going to Showa, the capital of Po me. From a spur above Sayü we had a good view up the valley. The hills run up for about 5,000 feet at an angle of about 45° with precipices in places; where not too steep they are covered with forest. We also saw the large flat terrace on which Pangshing village is situated with Kemteng on a higher terrace; both villages are inhabited by Mönbas. This village is larger, and more prosperous than any we have seen so far. Peach and plantain trees grow, and we saw some indigo. The headman met us with a present of a small basket, a garter, one (bad) egg for each of us and also some coarse cotton thread which is grown and spun here. In this valley the cotton thread appears to take the place of the ceremonial silk scarf which is used in Tibet. Several showers of rain.

18th June, Tsangrang 8½ miles, 4,550 feet.—Before starting we paid a visit to an incarnate lama at Pangshing. Our road was good and the hillsides more open than those we have been travelling along lately. We had to change our

coolies three times. At Kemteng (1 mile), Pango (5 miles) and Tachung dem (6 miles from Pangshing). Near Pango is a quarry of soapstone from which they make bowls and cooking pots, which are sold in Po me and Tibet. We also noticed fine slabs of sandstone on the *Mendongs* (walls covered with religious inscriptions). The Mönbas of Pango killed a good many Chinese last year and were suspicious of us; Sonam Chombi, our guide, had to explain at some length who we were. Tsangrang is a poor village of five houses of Lopas. A little barley is grown. We found the people pounding the wood of a soft pulpy tree in artificial hollows in the rocks; after pounding, the fibres are removed, leaving a substance resembling sawdust, which is eaten. A cloudy day without rain.

19th June, Lagung, 11½ miles, 6,050 feet.—We started with a climb of 2,500 feet through forest to a spur, the Namtung La (6,800 feet), below which was a rest-house. From the summit we had a good view of the gorge both up and down, and could see the Dabum La which we had crossed on the 17th. From the Namtung La we dropped 3,000 feet and then rose 1,000 to the Lopa village of Charasa. The direct road both to the Sü La and up the Tsangpo goes from Charasa, but as we learn that the Poba official was at Lagung, a Lopa village 1,000 feet up the hill, we went up to see him. A hundred yards before reaching the house we were met by two of his servants who had been sent to greet us with bamboo pitchers of *chang*. We put up in a small room in the house which the Poba official Nyerpa Namgye was occupying and paid him a visit as soon as we arrived. He was rather stiff and formal in his attitude. A cloudy day without rain.

20th June, Lagung.—The Nyerpa came to see us in the morning bringing a present of rice, tea, etc. He was less on his dignity than at our meeting yesterday. He was now returning from a tour down the valley in which he had executed the murderer of the king and fined several villagers who were implicated. The man executed was tied to a tree and one of the Nyerpa's servants struck him on the head with a sword. The Nyerpa had with him several matchlocks and Chinese rifles which he fired off at a mark in the afternoon when we joined him in firing a few rounds with our own rifles. In the evening he again came to see us—very friendly but very drunk. Some rain in the early morning.

21st June, Domkar, 6 miles, 6,850 feet.—We made a late start as a great deal of transport was required by the Nyerpa who was taking with him a quantity of red madder dye which was the fine he had imposed on the people implicated in the murder of the king. We descended 1,400 feet to a bridge over the Pablung stream which issues from the Sü La. The more direct road goes from Charasa to this bridge, while the road up the Tsangpo to Gompo ne branches at this point from the road which we are following to the Sü La. From the bridge we went four miles up stream to a large resthouse called Domkar. Some rain in the evening.

22nd June, Sü Latsa south, 7 miles, 9,700 feet.—Our road was up the stream all day; four miles from Domkar we crossed from the right to the left bank by a felled tree. We crossed several snow drifts, the lowest being about 9,000 feet above sea level, 2½ miles from Domkar we passed a place where the road went along the foot of a small cliff by the bed of the stream. Here the Pobas had skilfully constructed sangars to ambush the Chinese troops. We camped in a wide clearing where there were several herdsmen's huts. A fine day with no rain.

23rd June, Sü Latsa north, 5½ miles, 11,150 feet.—We went two miles up the valley where we turned to the right and climbed steeply 2,900 feet over snow which was quite hard and easy to travel over, though in places the leading man cut steps with his sword. At the top of the pass Captain Morshead was able to fix his position accurately by taking angles to the peaks of Namcha Barwa which had previously been triangulated. The height of the pass was 13,445 by triangulation. North of the pass was a range of snows which were beyond the Po Tsangpo, as the Nagong Chu is called in its lower reaches; beyond these snows we were told was the valley of the Po tö Chu. There was a great deal of snow on the north side of the pass. At one place the road over snow passed through a narrow gorge between cliffs on which sangars had been built, and it was near here that many Chinese were killed with sticks (see Chapter XII, 3). We camped just clear of the snow among small shrubs. A fine day with no rain.

24th June, Drosam, 3½ miles, 10,450 feet.—The official asked us to do a short march to-day as he wished to give the people of Showa a day's warning of our arrival. We had left one of our boxes at Lagung and Sonam Chömbi, our guide from Mipi, had remained behind to bring it on; he arrived in the morning and told us that the people at Lagung and other villages down the valley were very suspicious of us, saying we were Chinese; he had reassured them and explained exactly who we were. Our road was a good deal over marsh and through forest and we were obliged to ford several streams knee deep. We stopped in a solitary rest-house. Heavy rain in the evening.

25th June, Showa, 8½ miles, 8,520 feet.—We went 3½ miles down the valley when, after a steep drop, we crossed the stream which we had followed from the Sü La by a bridge near its confluence with the Po Tsangpo. The latter river was about 80 yards wide with a swift foaming current. We went down the left bank of the Po Tsangpo, gradually getting among houses and fine crops of barley, wheat and peas. The people had a large house ready for our occupation. Rain in the morning.

26th June, Showa.—This morning the Nyerpa came to see us with six other officials. They were a dirty and unimpressive deputation. We wished to travel some distance up the valley, but they made excuses to prevent us. In the evening we received letters from the Abor Survey Party in answer to those that we had sent from Kapu on the 5th instant. Some rain in the evening.

27th June, Showa.—The officials paid us a visit this morning, bringing presents including Rs. 45 in cash in exchange for what we had given them before. We took hourly readings of our aneroids and of the temperature both yesterday and to-day. A cloudy day with a little rain in the evening.

28th June, Petang, 7½ miles, 8,000 feet.—The Poba officials came to see us before we started this morning. We gave them a present of money and paid them something towards the rebuilding of the palace and *Gompa* which had been burnt by the Chinese. Two of the Pobas took us round and showed us the ruins of these buildings. They have sent a man with us who is to look after our supplies and transport as long as we are in Po me and who carries our passport. They have also written to an official at Dre called Nepo Penzog Rapden asking him to help us when we reach Dre. After leaving we descended to a fine cantilever bridge over the Po Tsangpo 150 feet span. The Pobas had destroyed the bridge when the Chinese came and have just completed a new one; 2½ miles from the bridge we passed Tatar village, where we found the people making paper. The road was along the hillside through thin forest. This is a small village; the people are very friendly. Heavy rain last night and a little to-day.

29th June, Dem, 10½ miles, 7,850 feet.—Our road was down the right side of the valley all day, partly through jungle and partly over terraces to a great extent uncultivated owing to the havoc wrought by the Chinese. In Dem village itself seven houses were destroyed but only one man killed as the inhabitants fled to the hills. We camped outside the ruins of one of the houses. We were joined by two monks from Chiamdo who are going to Lhasa and will be with us some days. About here the villages consist of scattered houses, sometimes a mile apart, which are considered as a village for administrative purposes.

30th June, Tang tö, 11½ miles, 7,150 feet.—The first half of the road was good, the second half bad through forest, and was something like the roads in the Mishmi hills. We passed Tsera village which had been completely destroyed by the Chinese. Beyond this we climbed a spur from which we saw Tang tö. Large cypress trees (*Cupressus funebris*), which are called "tsanden" locally, grow here; we measured one 180 feet high with a girth of 30 feet 5 feet from the ground. The Chinese burnt one house here. Rain all night and a good deal in the day.

1st July, Gyadzong, 11½ miles, 7,250 feet.—Our road lay for 1½ miles along the flat terrace to Tang me village, where there is a fine stone house, the residence of the chief who was beheaded by the Chinese. One mile farther, but not on the road, we followed, is the confluence of the Yigrong Tsangpo with the Po Tsangpo. Captain Morshead ascertained the height of the water at the confluence to be 6,750 feet by hypsometer. Above this is the site of a cantilever bridge which had been carried away by a flood. This necessitated our going two days up the Yigrong valley to a

ferry as there were no bridges. From Tang me we crossed the spur which runs down to the confluence of the rivers and dropped down into the valley of the Yigrong. We went up this river passing a small village called Doka, where we changed transport; beyond this we crossed a large stream, the Manglung Chu. Further on we passed a stone rest-house built for the use of officials. We had some trouble in getting transport coolies on the road and arrived at Gyadzong at dusk. There is a fine stone *gompa* and about 20 houses scattered about on a well-cultivated alluvial fan. The *gompa* had been destroyed by the Chinese and the incarnate lama had fled to Bhutan. Showers of rain all day and heavy rain in the evening.

2nd July, Dre, 5 miles, 7,300 feet.—Leaving Gyadzong we continued up the valley and reached the débris brought down by the Tralung river about 12 years ago. This buried several villages, formed a lake, and flooded out villages down the valley, doing much damage to life and property. (See Chapter I, 7.) After crossing this newly formed alluvial fan which was covered with young trees and fording the stream which caused all the damage we reached the lake, where we found a ferry boat made of two dug-outs about 30 feet long fastened side by side. At the ferry is an iron mine; this district is famous for its swords, which are some 4 feet long. We were paddled up the lake for about 20 minutes, after which we crossed, the width being about 600 yards. On the opposite bank we were met by the small local official, Penzog Rapden, to whom we had brought a letter from Showa, and by the people of Dre, who had pitched tents for us and were burning incense on the bank when we landed. Some of these people had lived for some time in the Mishmi Hills both at Mipi and in the Dri valley. They recognised people in photos which had been taken at Mipi. Some showers.

3rd July, Dre.—We halted to-day while Captain Morshead mapped the upper end of the lake. In the evening after dark, Penzog Rapden asked me to speak to him privately. He thought that we had some ulterior object in our journey which was connected with the Chinese, and he thought that I would perhaps take him into my confidence if no one else were present. We noticed two varieties of pine growing there, *Pinus densiflora* and *P. excelsa*.

4th July, Sangyü, 8 miles, 7,250 feet.—We travelled down the right bank of the river and camped under a large cypress tree nearly two miles below the village of Sangyü or Sangdzong as it is sometimes called. On the road we crossed one large stream, the Tawan, by a fallen tree. A few drops of rain.

5th July, Chuluk, 9½ miles, 6,850 feet.—Seven miles from camp we had a steady climb of 1,000 feet. At the foot of this spur was the site of a village which had been destroyed by the Yigrong flood which was 170 feet above the present level of the water. We camped at the junction of the Po and Yigrong rivers opposite to Tang me. The width of the combined rivers here was found by Captain Morshead, who measured it, to be 280 yards. We heard that the Abor Survey Party were expected in Pe in a day or two. A few showers with a good deal of sunshine.

6th July, Trulung, 10½ miles, 6,450 feet.—The road was down the bank of the Po Tsangpo through forest most of the way; two spurs had to be crossed which necessitated steep climbs of 800 and 1,000 feet. Ten miles from camp we reached the Trulung Chu, which we crossed by a bridge, half a mile beyond which we camped at the junction of the Trulung and Po rivers. The village of Trulung formerly stood above the bridge but had been destroyed by the Chinese. We had hoped to go down the Po Tsangpo to its junction with the Tsangpo and Gompo ne, but there is no road on the right bank and the rope bridge which leads to the left bank has been carried away by floods. We were shown the sites of two rope bridges one above and one below the confluence of the two rivers. Our camp is on the site of the camp which was occupied by the Poba soldiers the day before they fought the Chinese on the Chabji La. Trulung is the same as Kinthup's "Poh-Toi-Lung". Heavy rain in the morning.

7th July, Chema chembo, 8 miles, 7,250 feet.—On leaving camp we crossed a spur, the Chabji La. This was the scene of a fight between the Pobas and the Chinese. In clear weather we should have seen the hills at the confluence of the Po Tsangpo with the Tsangpo, but we were unfortunate, and though we waited several

hours we only got a glimpse through the clouds of one hill in that direction and could see no details. From the Chabji La we dropped into the valley of the Rong Chu tributary of the Po Tsangpo and passed the site of Palong Teng village which the Chinese had destroyed; further on we crossed another spur, the Desinko La, and camped on the bank of the stream near the site of Chema chembo which the Chinese had also destroyed. Heavy rain before sunrise and a little in the day.

8th July, Tongkyuk Bridge, 13½ miles, 8,340 feet.—Shortly after starting we had a glimpse up Netang valley of Gyala Peri, the snow peak above the left bank of the Tsangpo; a pilgrim road goes up the Netang valley and emerges at Sip opposite Tongkyuk. We passed a narrow part of the road where it overhung the river bed at which point the Pobas had killed a number of Chinese; the sangars from which they shot them were still standing. At one point we passed Namding Pukpa, the name of a rock under which Kintgup slept when he fled from Tongkyuk. Six miles from camp we reached Layötting village, where the people had pitched tents for us to rest in and regaled us with *chang*. From here we sent back the coolies who had carried for us for five days from Dre; we had passed no villages on the road at which to obtain fresh coolies. The Chinese destroyed the whole village of Layötting, about thirty houses, and decapitated seven men whom they caught here. After leaving this village we came on the Chinese road, which was well made and about 6 feet wide. From Layötting we went 7½ miles to Tongkyuk bridge; the road gradually left the thick forest and crossed pine covered hillsides. We crossed the river by a cantilever bridge on which is a guard house where people entering Po me are examined; it was here that Kintgup was detained four days before he got permission to enter Po me. Tongkyuk Dzong, where Kintgup was sold as a slave, is one mile up the left bank. The official of the Dzong, a man of 71, had prepared a camp for us at the bridge and came to see us. A road leading to Gyamda goes up this valley. This bridge was the scene of a fight between the Pobas and Chinese in which the latter came off best. There was also a fight on the hills on each side of the river, but as the range was about 800 yards no damage was done by either side. A little rain in the afternoon.

9th July, Tongkyuk Bridge.—Captain Morshead went up the valley to get as much of it as possible on the map. Several showers of rain.

10th July, Lunang, 16½ miles, 11,050 feet.—The road was up the Lunang Chu at first through pines. Ten miles from camp we reached Chunyima village near which was a good deal of open grass land; after this the valley became narrower and the road rough and stony, though the Chinese had improved it. Four miles beyond Chunyima we crossed the Lunang Chu by a bridge which marks the frontier of Po me in this valley; both banks of the stream above the bridge are in Kongbo. Shortly after this we entered the open valley of Lunang about two miles wide covered with good grass and fields among which were two villages. On this day for the first time on our journey we rode. The people of Lunang wear a peculiar felt hat made of yak's hair; it has a broad brim and is shaped like that of a clergyman. They make a kind of tea from a yellow-flowered plant (*Hypericum patulum*) which grows wild here. A messenger travelling very quickly can reach Lhasa from Lunang in 10 days. Heavy showers in the afternoon.

11th July, Tumbatse, 6 miles, 11,650 feet.—We came up a well-populated and open valley. This is the furthest village up the valley. Heavy showers all day.

12th July, Timpa, 15½ miles, 9,750 feet.—The road made by the Chinese comes to Lunang *via* the Temo La; we left this near Tumbatse and took a much rougher track up to the Nyima La. We reached the top, 15,240 feet, after travelling about 10 miles; from near the summit we could see the Temo La about 1,000 feet lower in altitude. The Nyima La is closed by snow from December to March, but the Temo La is always open as it is more used and the traffic keeps a road open over the snow. From the pass we could see the hills across the Tsangpo and the valley leading up to the Doshong La. At the village of Yang ngön, 6½ miles from the pass, we found the official of Chamna Gompa, a fat monk, and the Depa of Gyala, a small lay official, who presented us with silk scarves and *chang*. They had been sent up to meet us by the Dzorgpön of Tsela who was at Pe. We descended to Timpa near the bank of the Tsangpo. This is

a single large house; it is the same as Kintup's Guru Duphuk. Heavy rain in the morning before crossing the pass. The country south of the pass is much dryer.

13th July, Shoka 4 miles, 9,800 feet.—We crossed the Tsangpo in a ferry boat similar to that which we used at Dre on the 2nd July. The river level at the ferry was 9,680 feet by hypsometer. On the right bank we were met by a Tibetan official, the Dzongpön of Tsela, and several other smaller officials. His family estate, after which according to Tibetan custom he is named, is called Kokar and is near Chushul which was passed by the expedition, 1904, when approaching Lhasa. His son is one of the boys sent to England to be educated. He was accompanied by a Punjabi whom I had known as a small shopkeeper in the Chumbi valley and who had got into trouble at Gyantse and was making a living, he said, by vaccinating in different parts of Tibet. The Dzongpön had brought him from Tsela as an interpreter. From here we had glimpses of the snow peak Namcha Barwa but the mountain was mostly hidden in clouds. The Dzongpön had cushions arranged on the right bank of the river, where he presented us with silk scarves and where we sat down for some minutes and drank a cup of *chang*. We then mounted ponies and rode some three miles to Shoka village, where a house was prepared for us. On the way we crossed the stream which flows from the Doshong La and also passed Pe village, where the Dzongpön was staying. At Shoka the Dzongpön gave us a large present of food. In the evening I paid him a visit in Pe village. The crops here are irrigated; there are small bushes on the hills and larger trees round the houses; higher up the hills are covered in forest of fir trees. A fine day with no rain.

14th July, Shoka.—We halted here to-day. The Dzongpön came to see us and gave us some interesting news about the Chinese at Chiamdo. We also learned for the first time that in Shatra Löngchen had been sent to India. Captains Trenchard and Pemberton and their party left on their return *viâ* the Doshong La on the 5th July, eight days before our arrival. The Dzongpön had hurried down from Tsela but had just missed them. A few showers in the morning.

15th July, Tri pe, 10½ miles, 10,000 feet.—We said good-bye to the Dzongpön this morning. He ordered the small official of Gyala Dzong, known as the Gyala Depa, to go with us and give us any help we might require. We marched down the right bank of the Tsangpo. The country is much dryer than that through which we had been travelling, and the crops are irrigated. Spurs run down from the range into the river between which are flat cultivated terraces 500 feet above the water. The hills have fir forest high up below which is prickly oak. Eight and a half miles from Shoka we passed Kyikar village where the road from Pemakö *viâ* the Nam La comes in. At Tri pe we found a camp prepared for us in a grove of trees. We had to change our transport several times on the road. The people about here use the stone bowls which we saw being made at Pango on the 18th June. Heavy rain in the morning and some showers during the day.

16th July, Tri pe.—A glacier comes down from Namcha Barwa near this village and we spent the day in exploring it. We climbed up a valley past a grazing camp where the people gave us milk and butter, and dropped down on to the glacier from the hill above, reaching it about a mile above the snout. It was here half a mile wide and covered with boulders and earth on which larch and birch trees were growing; we followed the glacier down to the snout, which we found to be 11,400 feet above sea level. There were numbers of pheasants here which the people take in nooses fastened to a spring of bamboo. Some rain in the afternoon.

17th July, Gyala, 11½ miles, 9,300 feet.—We continued down the right bank of the Tsangpo, the river falling in rapids the whole way until within 1½ miles of Gyala. At one point we crossed some sloping rocks below which our ponies were obliged to swim. At Gyala we found a camp ready for us, and the Depa who had come with us from Pe had a hot meal prepared for us and our coolies. Across the river is a stream in which the god Shingche Chögye can be seen in winter. We had one shower of rain in the afternoon.

18th July, Kumang, 5½ miles, 10,350 feet.—I shot some pheasants (*Crossoptilum harmani*) at Gyala early in the morning, at which time these birds are very noisy. On the road we passed a stream, the Kenta Chu, where there was a strong smell of sulphur and up which we were told was a hot spring; beyond this we passed a rock

out of which sulphur gasses were bubbling through water. Here the people collect sulphur, which is sent to Tibet and some of which is also paid to the Pobas as a tax. Specimens of sulphur collected here are described in the geological appendix. From this point we rose through thick forest to a cliff which dropped 1,500 feet into the river which was flowing without ripple. Kumang is a single hut in the forest. Rain in the morning.

19th July, Nyuksang, 8 miles, 8,830 feet.—Our road was bad and hilly through forest. Two miles from Kumang we arrived opposite to Sengdam, a scattered village of about three houses with some whitewashed temples, behind which was a glacier in three branches coming from the Gyala Peri range. Sengdam is on a terrace above the Tsangpo, below which are some houses in cliffs on the bank of the river where a monk who looks after some temples lives. This is called Götsang Drupu and is a place of pilgrimage which is mentioned by Kinthup. The road in several places went over ladders; at Nyuksang there was no house of any kind but a good flat place on which to camp. We camped under an overhanging cliff, a few hundred yards from the river bank. The river here is an extraordinary sight, falling in one roaring rapid over which hangs a mist of spray. In places the water is dashed up in waves twenty feet high. We took a hypsometrical observation, which gave an altitude of 8,730 feet in the river bed. No rain.

20th July, Sengedzong, 7½ miles, 8,550 feet.—We continued down the right bank of the Tsangpo at places going along boulders in the river bed. The river is exceptionally low this year and the road from Gyala to Pemaköchung is usually only open from November to April, but this year we have been fortunate in being able to follow it in July. At one place to-day, however, we had to pass through a kind of tunnel in the boulders into which waves of the river washed every few seconds and a very small rise in the water would make the road impassable. The road at this time of year is never used and is much overgrown with jungle. We passed some snow drifts on the road at a height of about 8,500 feet. Sengedzong is a flat camp under an overhanging rock. "Senge" means "Lion" in Tibetan and marks on the vertical rock which are said to be the footprints of lions are smeared with butter by pilgrims. Our guides from Gyala said that it was improbable that we should be able to get into Pemaköchung as there was a place where the river flowed at the foot of a cliff just beyond Sengedzong. I went out to look at it and found it passable owing to the unusually small size of the river. We had no rain.

21st July, Pemaköchung, 8 miles, 8,800 feet.—After going seven miles we reached a point where the road goes down to the falls which Kinthup described. We went half a mile down to the river and found the fall to be about 30 feet with very sharp rapids above it, while the whole place was clouded in spray in which Captain Morshead later in the day saw rainbows. The river here was about 50 yards wide. The altitude of the river bed above the fall is 8,380 feet by hypsometer. Owing to the pace of the river the fall of water was not vertical. Captain Morshead also saw four takin grazing on the opposite bank who did not take the slightest notice of him and his party. A mile from here I reached Pemaköchung, a small *Gompa*. No news of our arrival had reached here and as I walked round a corner into the building, I came on two women, who screamed with terror and fled into one of the houses, shouting that the Chinese had arrived. From here we sent back the coolies who had carried our kit from Gyala. One shower of rain in the evening.

22nd July, Pemaköchung.—Kinthup and the Chinese lama stayed here three days trying to find a road down stream but were not successful. The few people here also told us that there was no road. I started this morning to see what could be done. Our view down the river is blocked by a spur called Gyama Taki, which they say is the boundary between Kongbo and Po me. If we could reach this we should see something more of the river. I went a mile and a half, crossing one stream which came from a glacier, when I reached another, the Sanglung on the bank of which was a graziers hut called Seti. The stream could not be crossed, so I turned up it until I reached the glacier from which it came, and here I was able to cross over the glacier into the forest on the opposite side from which place I returned to Pemaköchung. I saw tracks of game of various kinds, bears, takin, serow and pheasants. From the glacier I had a good view of Gyala peri (23,460 feet). Several showers.

23rd July, Sanglung Glacier Camp, 4 miles, 8,950 feet.—I went down to the river to try and take some photographs from below the fall. The road had not been used since the pilgrimage in April and I had some difficulty in finding it through the overgrown vegetation. The pilgrims crawl through two tunnels in the rock. I was able to get through one, but the mouth of the second was under water at this time of year. Numerous cairns of stones built by the pilgrims were standing. From here I returned to Pemaköchung and followed the road I had explored yesterday and camped with Captain Morshead. Heavy rain at night and some in the day.

24th July, Sanglung glacier camp.—We started to-day to find a road over the Gyama Taki spur. There was no track at all and we had to cut a good deal through small rhododendron; when approaching the crest of the spur we found an old road which had been cut through the rhododendron apparently three or four years previously. We had brought one guide from Pemaköchung, a man who kept a few cattle and the only inhabitant apart from the people of the monastery. This man was very surprised to see this road and said it must be hunters from Gyala who occasionally come down to hunt musk deer and takin. No killing of game is allowed here, so they come down secretly. He said it could not be the people from the lower Tsangpo valley as if there was a road up, they would have looted his cattle. We reached the summit of the ridge 2,400 feet above camp after 7 hours and returned in 2½ hours. It was very cloudy with a good deal of rain and, as we could not see where we were going, we had not succeeded in striking the crest at its lowest point. We had a momentary view of the river below us through a break in the clouds. Heavy rain all night and a good deal in the day.

25th July, Camp, 6 miles, 8,400 feet.—We marched with very light kits, climbing over the ridge by the track we had found yesterday. This after crossing the ridge disappeared entirely in places and was mostly broken through the jungle though in places we came on a tree that had been cut. This is probably a track made by the herds of takin who migrate at certain seasons of the year; some men had used the track, cutting it in a few places. After descending about 3,000 feet we came to a stream which we were obliged to bridge and here we camped. Heavy rain at night and in the early morning.

26th July, camp, 3 miles, 11,050 feet.—The track we had been following had now completely disappeared, so we cut through the jungle up hill and had some trouble in finding water, but at last reached a small trickle where we camped. The ground was very steep and we were obliged to make platforms of sticks and stones on which to sleep. After reaching this camp, which took us 7 hours, I went on to explore the road for to-morrow's march. I got on to a high spur and had a fine view down the Tsangpo valley and saw some snows which must be near the Sü La which we crossed on the 23rd June. One of the larger of these mountains was formed of two peculiar pillars of snow. I also had a good view of Gyala Peri and of the Namcha Barwa groups. A fine clear day with no rain.

27th July, Camp, 11,050 feet.—We started along the road I had explored yesterday evening and Captain Morshead got a good deal of the country mapped from a hill top. I pushed on to see if I could find another camp with water, which was very scarce on these hills. I got as far as the hills above the left bank of a large glacier stream, the Churung, but could not get down on account of cliffs and consequently could not reach water. It might have been possible to descend on to the glacier itself, but had we done so it would have taken us more than two days to get on to the next spur which hid our view down the Tsangpo. We had only food left for two days and our hands were badly blistered with continuously cutting through the rhododendron jungle, so we decided to go back. A fine clear day with no rain.

28th July, Churung Chu, 8 miles.—We returned to camp, 8,400', where we were met by one of our coolies who had been sent back to Pemaköchung to get more rations. He said that some people had arrived unexpectedly by an old road up the bed of the Tsangpo from Payü village in Pemakö. These men had returned. We decided that, as we had not enough food for the whole party, I should go with one coolie and as much food as we could spare and follow this road as far as possible. So taking 15 lbs. of flour I dropped down to the bed of the Tsangpo and soon found the track by which these people had come. This I followed downstream and towards evening overtook the party, who proved to be Mönbas from

Payü and Luku villages; they had slung a long ladder made of rope of creepers over a cliff and were collecting honey from a bees' nest. I told them what I proposed to do and they offered to help me. They said that their road left the Tsangpo a short distance down and crossed the range to their villages which were on the right bank of the river below the Po Tsangpo confluence. I left them and camped in the bed of the Churung Chu expecting that they would arrive at dusk but they did not turn up. A few drops of rain in the morning.

29th July, Churung Chu.—As the Mönbas had not arrived I started at day-break hoping they would overtake me. I found the fallen tree by which they had crossed the Churung Chu, but could not find the track beyond. I spent the whole day in looking for the road, but without success. In going through the thick jungle here I had the misfortune to lose my camera, the only one we had with us. The Mönbas arrived at the Churung Chu in the evening. A fine day.

30th July, Camp, 3 miles.—This morning before daylight I found the Mönbas starting off and I hurried after them. Their habit is to start very early, march for about four hours, when they cook a meal, after which they march till about 5 in the evening. We travelled about 5 miles along a bad road when we reached an open sandy stretch in the river bed where we had breakfast. The people promised to take me to Payü village and to send men back with me to Pemaköchung and to give me enough food for the return journey. The road we were following was a track used by takin during their migrations. After breakfast we continued down the river and finally climbed about a thousand feet past a waterfall. At this point the people of Luku village separated and took a direct road to their village, while my coolie and I continued with the Payü people. At one resting place they told me that they could not send men back with me from their village and advised me to go back at once, as there was a very difficult cliff in front of us over which the coolie and I could not go without assistance. The reason they gave for not taking me to Payü and sending me back with guides was that at about this time of year the streams would be rising and the bridges which they had made on the road would be carried away, in which case a small party, either ourselves or the guides when returning, would be cut off as the necessary bridges required the labour of at least 10 or 15 men. I argued with them for some time and said that I would camp with them to-night and we would talk the matter over and added that I would pay any guides who returned with me handsomely. We, therefore, moved on together, the Mönbas gradually drawing away in front of me. When they got near the difficult cliff a bend in the road hid them from me and taking advantage of this they threw down the things of mine which they were carrying and hurried on across the cliff. I got up just as the last man had passed and they refused even to look round when I called to them. The coolie and I lightened our kit and hid some of our flour and blankets under a rock and attempted to cross the cliff, but were unable to manage it. In the end I let the coolie down with a rope and he overtook the Mönbas, who were having a meal. They refused to come back and said that they had hurried on as they thought I should be killed if I attempted to cross the cliff in boots. At this time I was travelling with only a few blankets and one coolie and to their minds was a person of no importance whom it would not be worth while to take any trouble about. Had the party been larger and the Mönbas more impressed by it, I do not think they would have dared to desert as they did. I then returned as fast as possible hoping to be able to overtake the Luku party, but was unable to find their tracks, so was obliged to give it up and return as quickly as possible as I had only just enough food to get me back to Pemaköchung. I took an observation with the hypsometer in the river bed about two miles below the Churung Chu, which gave an altitude of 7,480 feet. It was unfortunate that I could not get further, but had I gone with the men of Payü I could not have seen much more of the river as their road cut across the bend. The spur which juts out into the bend is quite flat and covered in forest with a bare hill at the end and should present no insuperable difficulty, and if I had been able to reach Payü and obtained more supplies I think I could have moved down this spur and probably have reached the river bank. I obtained some information from the men regarding the course of the Tsangpo here. They said that there was no road, but that they occasionally hunted takin in the neighbourhood and had never heard of any large falls. I returned and camped about 3 miles above the Churung Chu. No rain.

31st July, Camp, 12 miles.—I returned up the same road passing the Churing Chu. When I got on to fresh ground I had great difficulty in following the track made by the Mönba party; in places they had lost the road and cut several false tracks through the forest which were misleading. I also found some quite impassable cliffs and had to use ropes. The Mönbas had built ladders which they had destroyed on their return journey; they had done this I found out because they had stolen some things from Pemaköchung and did not wish to be followed. We had a little rain.

1st August, Sengedzong, 11 miles, 8,550 feet.—Our road led us along the foot of the Gyama Taki spur. We did not expect to be able to cross the Sanglung stream as the Mönbas had broken all the bridges they had made, but after a good deal of trouble, fording the water and climbing over some large rocks in mid-stream we succeeded in crossing and reached a part of the road we knew. Here we found a woman living in the hut at Seti looking after cattle; we breakfasted with her and then hurried on to Pemaköchung, where I found some of my kit and a letter from Captain Morshead to say that he could not leave coolies to bring it on with me as the people of Pemaköchung had refused to give them any food; after some trouble with the people I got enough food to see me to Gyala and also two men to carry. One was a monk who had lived 30 years here and who said that when he was a boy he had heard of a man from Assam who came to Pemaköchung and followed the river down to Pemakö. This is probably a garbled version of Kinthup's attempt. Heavy rain last night and early this morning.

2nd August, Kumang, 15½ miles, 10,350 feet.—I returned along the road by which we had come. I met some coolies Captain Morshead had sent to me, thinking that I should be unable to get transport in Pemaköchung. Some hunters from Gyala camped with us to-night who had just killed a trkin; all killing of game has been stopped by orders of the Delai Lama, so they told us that they had been out to collect sulphur to pay their tax to the Pobas when they found the animal dying. A fine day without a cloud.

3rd August, Gyala Gompa, 6½ miles, 9,300 feet.—I returned to Gyala, where I found Captain Morshead busy getting our coolies and baggage across the Tsangpo by a rope bridge. There is a ferry boat here which cannot be used in summer when the river is high, but this year being peculiarly dry the boat can be used. Unfortunately, however, just before our arrival, a woman had tried to cross by herself in the boat which was carried downstream and neither the boat nor the woman were ever seen again; they had doubtless been dashed to pieces in the rapids below. The bridge was a single rope about 150 yards long and 50 feet above the water in the centre. There was a big sag in the middle which necessitated a difficult pull up on to the far bank. This spell of fine weather had done considerable damage to the crops about here which are not irrigated. The Gyala Depa gave us some interesting information about the relations between the people here and the Pobas. A fine day with no rain.

4th August, Tam'ing, 13 miles, 10,000 feet.—Before starting this morning we went to see the waterfall in which the god Shingche Chögye is to be seen. Two or three hundred pilgrims come each year in May when the snow on the road has melted and while the stream is still small; in summer when the waterfall is big there is no hope of seeing the god. Three miles from Gyala Gompa we passed a small stream the Lamo Chu which forms the boundary of the Gyala Depa's district. At Tru the village the people were waiting for us on the road with bowls of curds. 9½ miles from our camp we reached the stream which flows from the Tang La, up the valley of which is a road to Lunang. We put up in a house at Tamling, a village which is situated on a terrace. The character of the country changes between Gyala and this place. At Gyala there are thick damp jungles and our road to-day was partly through bamboo jungle. Here it is much dryer, the hills more bare, having dry scrub for about 1,000 feet above the river, above which again is forest. The rainfall here must be much less than at Gyala. Some rain in the afternoon.

5th August, Mönlam, 14 miles, 9,700 feet.—Our road took us partly over flat terraces and partly over rocky hillside cutting for 6 miles to Susum village; three miles further we reached Timba, the village in which we had stopped on the 12th July after crossing the Nyima La. Here we were met by the owner of the house

which we had occupied at Shoka on the 13th and 14th July who brought us the things which we had left in his charge during our journey down the river. We then went 5 miles further when we reached Mönlam village. Some rain in the afternoon and heavy clouds on the hill tops.

6th August, Dzeng, 18 miles, 9,500 feet.—We went eight miles along a road, which was for the most part good with a few narrow places, to Sang village where we changed our transport; this village is the same as Cho Lhakang mentioned by Kinthup. From Sang a road leads to Lunang, a journey of two days *via* the Sang La. From the village we climbed 500 feet over a sand dune which had been blown up from the river bed and 4 miles further reached a single house named Kongmo above which on the hill was a *Gompa* containing 15 monks. Six miles further we reached Dzeng where we camped on smooth turf in a grove of willows. We had hoped to reach the large *Gompa* of Temo, but it was too late to push on when we reached Dzeng. On the opposite side of the river we passed three of the valleys which lead over the range, those leading to the Deyang, Tamnyen and Lusha passes. The river here was about 600 yards wide with a very slow current. There was a ferry 1 mile above Tamnyem village. There was a good deal of game on the road (hare, partridge, and pheasant). Here we met Tindrup Gentsen, the son of the Poba official of Dre whom we had met on the 2nd July. He sold me a fine Poba sword over four feet long. Some rain in the afternoon.

7th August, Tsela Dzong, 12 miles, 9,700 feet.—After sending off our baggage we paid a visit to Temo *Gompa* some 2 miles off up a valley. Half a mile from the *Gompa* we were met by two monks and an agent of the small lay official, the Temo Depa who lives here; these people presented us with silk scarves. Further on we entered a courtyard, where we sat on cushions and were given *chang* and tea; on reaching the gate of the *Gompa* we found the head Lama waiting with a silk scarf; he was one of the smaller officials who had met us at Shoka in company with the Tsela Dzongpön on the 13th July. We went up to his room, where we were given *arrack* and after visiting the temples we left, being given presents of eggs, flour, *tsampa* and a sheep by the monks and villagers. The *Gompa* is a large white pile of buildings with wooden pent roofs among which are two or three small gilt roofs over the holier idols. There are about 250 monks in the *Gompa*. We were accompanied for half a mile by two monks and the Depa's agent. The people complained that the Pobas were continually raiding their ponies and cattle which were kept at Lunang on account of the good grazing. This is a well-cultivated part of the valley with many villages, necessitating constant changes of transport, each of which causes delay; our changes to-day were Miri 1 mile, Sekora 1 mile, Makuto 1 mile, Gunjo $\frac{1}{2}$ mile, Yutrong Dzeng 1 mile, Luting 4 miles and Chugor $1\frac{1}{2}$ miles. At Makuto we found the people weighing out *tsampa* which they were sending to feed the Tibetan troops at Lho Dzong, where they are preparing to resist the Chinese. $1\frac{1}{2}$ miles before reaching Yutrong Dzeng we passed a ferry at which point our road went through a tunnel under the ferryman's house. There are some holy places in the hills above here which are shrines of the Bonba sect who perform the pilgrimage counter-clockwise; we passed a number of pilgrims, many of them of the orthodox yellow-cap sect, who were performing the pilgrimage in the Bonba manner. At length we reached the valley of the Gyamda Chu, a large river in several branches between which were lines and clumps of willow trees growing on turf on which cattle, ponies, pigs, sheep and goats were grazing in great numbers; there were also a few fields. We were obliged to go some distance up the Gyamda Chu to the crossing place. Lower down near its confluence with the Tsangpo the river is in so many branches that crossing is difficult. We collected boats at Chukor and after crossing one branch of the river by a 250-foot trestle bridge we reached the main stream. Here we got into leather coracles and were rowed downstream for about 20 minutes, finally landing on the opposite bank near Tsela Dzong. We were greeted by the Dzongpön whom we had met on the 13th July. He showed us into a house prepared for us and gave us presents of eggs, flour, a sheep, etc. We had a little rain.

8th August, Tsela Dzong.—We visited the Dzongpön in the morning, who gave us lunch. He took pains to explain to us the southern frontier of Kongbo Province; he evidently feared that in taking over the country of the Lopas we

might also annex a part of Tibet. The frontier is the range south of the Tsangpo though people in two valleys south of the range pay taxes to Tibet. He also gave us information about the administration of Kongbo. A fine day.

9th August, Dowoka, 8½ miles, 9,600 feet.—The Dzongpön came to see us early this morning as he was leaving for Chomo Dzong, a day's march up the Gyamda Chu. Our road was good with a narrow rocky section between the 5th and 6th miles. On the opposite side of the river we saw the village of Lamdo which had been burnt by the Chinese; a valley joins the Tsangpo at Lamdo by which Lopas come to trade; these Lopas are an independent tribe, probably Abors. They say that they have less snow here than at Pe and other places down the river; they also have much more sunshine, which quickly melts the snow that falls.

10th August, Lutö, 15 miles, 9,550 feet.—Our road was good the whole way; 5½ miles from Dowoka we passed Tokar ferry. The village of Tokar is on the opposite bank of the Tsangpo. We also passed the valley which leads to the Nayü la, over which Lopas came to trade. These Lopas pay taxes to the Tibetans. There are many ruins about here and most villages have ruined towers on one or two houses. The ruins are the result of the Tartar invasion about 1710. North of this part of the Tsangpo valley is a tributary of the Gyamda Chu called the Nyaga Chu which they say is well populated.

11th August, Kangsar, 15 miles, 9,850 feet.—We had been travelling up the north bank in the hope of seeing some of the triangulated peaks of the snow range south of the river and found it difficult to obtain information about the Lopa tribes who come to trade in the Tibetan villages on the south bank as the people seldom cross the river. On this day I tried to cross opposite Miling, a village to which Lopas come about this time of year, but was unable to get a boat or raft, as they do not cross the river about here in summer. On the road we visited Trashi Rapden Gempa, the head lama of which place was one of the small officials whom we had met at Pe on the 13th July. We were well received and given a meal and shown round the temples. This place was accidentally burnt about 18 years ago, and is being renewed; there are 130 monks. The *Gompa* is 1 mile from the Tsangpo up the Sungkar pu Chu. On the opposite side of the Tsangpo is a valley of a small stream, the Yusum Chu, down which Lopas used to come to trade, but they have not done so for many years. We put up in a large house. A good deal of rain.

12th August, Tü, 7½ miles, 9,950 feet.—Last night a messenger came up the valley from the Tsela Dzongpön ordering soldiers to collect at Tsela where the son of the late King of Derge called Derge Se, a general in the Tibetan Army, was to arrive. The Chinese beheaded the King of Derge, a state north of Batang, and his son has been given a high military appointment in Tibet. On the south bank of the river we passed Lilung village at the mouth of a large stream up the valley of which a road leads to the Pachakshiri country. I had hoped to cross and to march down the south bank to collect some information about the Lopas and Mönbas who cross the passes from the south, but I found that the bridge over the Lilung stream had been broken by the Tibetans when a small party of Chinese who had escaped from Po me were pillaging and burning on their road to Lhasa. I was, therefore, obliged to abandon the idea. We were very well received in this part of the valley owing, no doubt, to the fact that we carried a passport from the Tsela Dzongpön. At the two villages of Sengbo and Tranda we found tents pitched and meals with tea, milk and *chang* prepared for us and our servants. On reaching Tü we found that the messenger who was summoning the soldiers had taken the only ferry boat, which he had left on the other bank of the river, and that he would not return till the evening. The people refused to help us at all, so we sent for the official to whom we showed the Tsela Dzongpön's passport. He scolded the people for not helping us and ordered what supplies we wanted and had a camp made for us. The party of Chinese soldiers who returned from Po me were about 50 strong. They burnt several villages including this one and destroyed the Dzong here. The inhabitants fled, but here the Chinese found about 16, mostly women and children, whom they killed. We have seen

some sign of Indian goods in the villages about here. Cigarettes, candles, matches, knives, besides enamelled ironware and cloth. None of these things are used in Po me. No rain, but a cloudy day.

13th August, Gacha, 10½ miles, 10,200 feet.—We crossed the river in a ferry boat made of two dugouts tied abreast; ponies were also taken in this boat. We travelled up the right bank of the river, in places through scrub jungle. Orong and Gacha are two estates, one on each side of a stream. Orong is owned by the Shatra Lönchen and Gacha by Lhalu, one of the big Lhasa families. We stopped in the large house at Gacha. The local official (Depa), an agent of the Lhalu family, was one of the people whom we had met at Pe where the Tsela Dzungpön had collected several of the smaller officials of the district to meet us. We were visited by the representative of the Orong official, the man himself being in Lhasa. The Gacha Depa collects the taxes from the Mönbas of the Pachakshiri country. He had a tin of Huntley and Palmer's biscuits which can, they say, now be bought in Lhasa. The people about here fasten tassels in the ears of their cattle which keep flies out of their eyes. Some rain.

14th August, Camp, opposite Tro me, 12 miles, 10,050 feet.—Before leaving Gacha this morning we received a letter from the Kalon Lama, who is Commander-in-Chief of the Tibetan Army. He wrote from Pembar Gumpa in Kham asking who we were and what we were doing. We sent a suitable reply. On the road we met a Lopa from the Pachakshiri country. He spoke good Tibetan and was very communicative. He said that he paid taxes to the Lhalu family at Lhasa. 4½ miles from Gacha we crossed Trinto stream up which valley roads lead to the Lilung and Kyimdong valleys. On the opposite or north bank of the Tsangpo, there are roads up several nullahs which lead to the *Gyalam* (Chinese road). Above Gacha the hills gradually close in on the river until it is flowing through a gorge with small rapids in places. About here there are very few villages. We camped opposite Tro me village and shouted across to the people to bring our supplies and to make the usual arrangements for our camp. The people supply us with tents for our servants where necessary, cushions for them to sleep on and cooking utensils. These as well as our transport animals were brought over in skin coracles. The ponies had their feet tied together and were thrown on their backs into the coracles as their feet would have torn through the leather of the boats. In the bottom of the valley about here is a good deal of scrub jungle which is thicker along the banks of streams. Above this is a belt of prickly oak called *Parto* in Tibetan which is used as fodder for animals in eastern Tibet; higher up still is forest of pine. There is more vegetation and the forest descends lower down the hillsides on the south bank. A little snow falls in winter, which quickly melts, though higher up the hills the snow is deep in winter. At Tro me a valley joins the Tsangpo from the north up which is the road to Lhasa by which the Chinese troops who escaped from Po me travelled. They burnt Tro me village. Heavy rain in the afternoon.

15th August, Kamchang, 13 miles, 10,150 feet.—The road lay for 4 miles through wet thorny jungle to a point opposite Changdrong village from which we obtained fresh transport, the ponies being brought over in coracles. Three miles further after passing some wooden galleries along a cliff we reached Rishö village on the south bank, the first village on this bank above Sampe. Further on at Cha ke we were met by an agent of the Nang Dzungpön, who made arrangements for our transport. At Kamchang village the people presented us with small pears and apples. About here we saw a number of people who wear the hair in only one queue as is done at Lhasa and in the province of Tsang, and not in two as is the custom in Kongbo. Some rain in the afternoon.

16th August, Shu, 10 miles, 10,400 feet.—Just beyond She stream was a smaller stream called Kongchung Rakar which forms the boundary between the provinces of Kongbo and Takpo. At one point the summer road goes along a difficult cliff, while the winter road is in the bed of the river; this year the river is abnormally low and we were able to go along the winter road at the foot of the cliff, the water being up to our ponies' girths. Six miles of the road was through a gorge which resembled the Red Idol gorge on the Gyantse-Phari road in which were several rapids down which boats could not travel. Cypress trees formed the only vegetation of any size. Nine miles from Kamchang we reached the confluence of

the Kyimdong Chu with the Tsangpo. Captain Morshead took an observation for altitude by hypsometer here, the river level being 10,240 feet above the sea. We marched up the Kyimdong Chu, crossed it by a bridge and stopped in tents in Shu village. The villages about here are smaller and poorer than those lower down the Tsangpo. The people were threshing corn and also parching barley, out of which they make *tsampa*. The barley is placed in a pan which is filled with sand and placed on the fire. It is stirred about with the hot sand until the grain bursts, when the sand is sifted from the barley, which is then ground. Late at night the agent of the Kyimdong Dzongpön came to see us and sent orders up the road for preparations to be made for us. The Dzongpön himself was Chief Commissariat officer with the Tibetan troops in Kham who are facing the Chinese force at Chiamdo. We met a Mönba from the Pachakshiri country here. Near Kyimdong are some lead mines which are mentioned by Kinthup. The people say that they are nearly worked out now. I went up a valley to look for bear of which there are numbers here and though I saw tracks I did not see the animals. There are also two varieties of pheasant here besides other game birds. Heavy rain in the afternoon.

17th August, Nge, 11 miles, 10,600 feet.—The country on to-day's march appears to be dryer than that below the gorge through which we passed yesterday. Some of the houses have flat roofs of mud, though occasionally pentshingle roofs are seen in the larger valleys which come down from the snow range to the south; in these valleys the rainfall appears to be more heavy than in the main Tsangpo valley. The hills north of the river are almost bare, while south there is a little pine forest in places high up the hillside. The crops here are more advanced and the peaches, of which there are quantities in every village, are riper. We passed Tungkar Gempa of 70 monks near which is a ferry over the Tsangpo. This is called by Kinthup "Dong Kargon". In the river bed we noticed a shiny black deposit on the rocks below the flood level which was formerly a mixture of oxides of manganese and iron. We camped in a willow grove in Nge village. In the garden we noticed a vine and were told that the grapes are eaten in October. There are a few bamboos in the villages and small patches of hemp are grown as a crop. Heavy rain in the afternoon.

18th August, Lu, 14½ miles, 10,700 feet.—On to-day's march the road leaves the Tsangpo valley in order to avoid a precipitous gorge through which the river flows in rapids. We went up a stream, the Drisam Chu, and then climbed up to a pass, the Kongbo nga La (14,570 feet). On either side of the pass was a single house called a *Jikyop* in which travellers can take shelter. The man in the *Jikyop* is also responsible for sending letters through. One of the men had been in Darjeeling, where he had learnt to smoke cigarettes which are forbidden in Tibet by order of the Delai Lama; he was very glad of a few we were able to spare him. The country near the pass is very different from that of the Tsangpo valley, being much wetter. There is thick forest of larch, birch and a little rhododendron with a tangled undergrowth of rose bushes. After crossing the pass we descended past the *Jikyop* to a large white *Chorten* by a stream, where we found fresh transport which had been sent out for us from Nang Dzong. A road up this valley leads to Tsari Chösam where we stopped on the 12th September. We went down the stream to Nang Dzong on the bank of the Tsangpo; while waiting for transport here I was taken into a house in the village which had been prepared for us and was given tea and *chang* by the Dzongpön. From the village we went 3 miles up the right bank of the Tsangpo, passing at the foot of the rocky spur on which the Dzong is built, to a ferry of coracles opposite Lu village. We crossed and put up in a large house, an estate of Yapshi, one of the big Lhasa families. Kinthup has exaggerated the difficulties of the Kongbo nga La. We were told that the pass is never closed by snow. Kinthup also says that there are numbers of gooral (*ragowa*) on the pass; we were told that bharal are seen there though we did not see any ourselves, but that there are no gooral. We had heavy rain on the pass though the Tsangpo valley was dry and there had been no rain at Nang Dzong all day.

19th August, Lu.—We halted to-day and I spent the day on the hill above. I climbed some 5,000 feet and saw a large herd of bharal, but did not get a shot. I also saw partridge, snow-cock and pheasant.

20th August, Lhenga, 10 miles, 10,600 feet.—After passing Pari Chôte, a *Gompa* on a hill, containing 200 monks, we travelled $8\frac{1}{2}$ miles to Trungkang village, the birthplace of the present Delai Lama. Pari Chôte is in the Gyatsa Dzong district, the valley below is under Nang Dzong. We had overtaken a monk of Pari Chôte on the road and rode some distance with him; he told us that he was appointed to collect taxes and administer the neighbouring villages which were the property of Pari Chôte. As we approached Trungkang, we suggested going in, but he did his best to dissuade us, first of all saying that there was nothing to see and later, when we showed insatiable curiosity, saying that no one was allowed to go there and that if we insisted he would lose his head, the invariable excuse used in Tibet on occasions of this kind. He then rode on and left us. The village was prettily situated with one golden-roofed temple among trees and gardens, which had been built on the site of the cottage in which the Lama was born. At the gate we found a crowd of villagers and our monk friend and rode past them into the courtyard. We dismounted and went into the house, the people following. I then said to them that I had never been refused admittance into any house in Tibet before and persuaded them to take me to the temple upstairs. There were several sealed rooms, which they said were only opened when the Delai Lama himself came, and a beautifully ornamented temple in charge of a monk. After seeing this we left not wishing to press the people to open any more rooms. The Delai Lama has only visited this place once since he was taken to Lhasa as a child. In the year 1900 he performed the Tsari pilgrimage on which occasion he spent about a month here. $1\frac{1}{2}$ miles beyond Trungkang we reached Lhenga, where we camped in a garden. The Tsangpo valley here is broad and open, and we could see a good distance both up and down stream. Looking up stream we could see the Nyala Chamba snow range near Lhapsö which we were again to see on the 23rd instant; down stream we could see the hills above Lu which I had climbed the day before. Some rain in the evening.

21st August, Rapdang, $7\frac{1}{2}$ miles, 10,800 feet.—We travelled 2 miles up the Tsangpo to a ferry at which we crossed in skin coracles to Tromda on the south bank. From here Captain Morshead and the baggage went to Rapdang while I went 4 miles up the right bank of the Trulung Chu to Ganden Rapden, a *Gompa* of about 130 monks. I was shown over the temples, in one of which a service was being held, after which I went to the abbot's private quarters, where he gave me lunch. He told me that when the Chinese came here the monastery submitted to them and were well treated, but that Guru Namgye Dzong was fined 12 dotsees (Rs. 1,000). I came back down the left bank of the Trulung Chu and could see Talla Kambo, a *Gompa* high up on the hills south of the Tsangpo. When I reached the Tsangpo I went up the right bank to Rapdang where, after passing the small nunnery mentioned by Kinthup, we camped in a garden. Fruit and vegetables (apples, pears, peaches, peas, beans and raddishes) are plentiful about here. The people here peel the bark of a kind of poplar (*Populus alba*) in strips about 6 feet long which curl up when they dry, and form excellent torches. One sharp shower about midday.

22nd August, Lenda, 12 miles, 11,000 feet.—We had a bad road along the steep side of the valley for $3\frac{1}{2}$ miles to Palung stream up which a road leads to Kyekye, a place at which we stopped on the 4th September. Half a mile further was the small village of Pamda where we changed transport. From here we went along a steep hillside with some sandy stretches which were very hot at midday until opposite Gyatsa, one of the four Dzongs of Takpo, situated on the north bank of the Tsangpo. From Gyatsa a road goes north to the Gyalam. Beyond this we reached Lenda where we camped in a garden. The people here said that the Chinese treated them well and paid good prices for everything that they took. A fine hot day with no rain.

23rd August, Lhapsö, $13\frac{1}{2}$ miles, 11,650 feet.—We went 6 miles to Takpo Tratsang, a *Gompa* of 500 monks, the road being in many places bad and narrow along the steep hillside. I went in to see the monk who was in charge during the absence of the abbot; he was a rude, ill-mannered man. I was shown over the temples in which was a large idol whose feet were in the lower and whose head appeared in the upper storey. This *Gompa* is affiliated to Chökorgye, another large

Gompa about 2 days' march north of Gyatsa. Close to the *Gompa* we found a large house called Trumba, the owner of which had seen our troops in Lhasa in 1904. He had laid out cushions on the roadside and gave us and our servants cups of *chang*. At Dzam 3 miles further we left the Tsangpo valley and went up the Dzam Chu to Lhapsö Dzong, a ruined fort. The official had met us at Dzam from which place he had hurried on to prepare for us. He met us at the gate of the fort, gave us a room, and sent over presents of dried fruit, cheese and fresh pomegranates which had been bought in Tsöna and were probably grown near Tawang. The road leaves the Tsangpo valley to avoid cliffs and in the part of the Tsangpo valley which the road does not follow there are said to be some remarkable rapids. A fine sunny day.

24th August, Traso, 10½ miles, 15,400 feet.—We went up the cultivated valley among irrigated fields; the stream was in a narrow gorge some 20 feet deep over which the irrigation water was taken in wooden troughs. At Lasor village we saw curious balls of wooden pulp which the people send to Lhasa as a tax. This pulp is mixed with musk and other sweet smelling things and made up into incense sticks. As we got further away from the Tsangpo valley the country appeared more wooded, and there is apparently a heavier rainfall. The trees were willow, rose and other thorny bushes with a few rhododendrons, while alpine flowers covered the patches of turf in the jungle. There are pheasant here and also other game birds, while bharal are said to be found on the hills. A fine sunny day.

25th August, Lhagyari, 13 miles, 13,100 feet.—From Traso we climbed over a thousand feet in a mile to the top of the Putrang La (16,470 feet). From the pass a little east of north we saw the Nyala Chamba snow range which we had first seen from the road near Lhenga on the 20th instant. 1,600 feet below the pass on the west side we came on the first fields. We went down the valley in pouring rain to Lamdrin, a village $8\frac{3}{4}$ miles from the pass. The valley here opens out to a width of about $1\frac{1}{2}$ miles with bare rolling hills on either side; down the centre of the valley the Changra pu Chu cuts a gorge 200 feet deep, in which is a good deal of cultivation, while there were also some fields in the open valley above. Among other crops we noticed buckwheat. The Dzong, *Gompa* and village of Lhagyari are on the upper terrace overhanging the gorge and are fine buildings; below on the bank of the stream is a pleasant garden enclosed by a high wall, containing summer houses in which the local chief, a boy of 13 years, was living. Lhagyari is really the name of the palace; the village is called E and the two names are used indiscriminately. Heavy rain in the afternoon.

26th August, Kongbo, 6 miles, 14,100 feet.—The direct road to Tsetang goes down the valley from Lhagyari to Rongchakar; we did not follow this as we were anxious to map as much as possible of the Tsangpo and to enquire about the rapids, said to exist in the gorge which the road we were following avoids. Our road led us over the Kampa La (14,300 feet). The hills are bare, covered with flocks of sheep, this being a good wool-producing district. From the pass we descended to a narrow well-populated valley called Kongbo, where we put up in a house. Our transport animals were donkeys, these animals and yaks being the transport most in use about here. We had no rain but there were thunderstorms on the surrounding hills which were dusted with snow.

27th August, Trap, 9½ miles, 12,100 feet.—We rose 1,500 feet in 5 miles to the Nyerma La (15,600 feet). There were a good many gazelle on the pass—the first we have seen. From the pass we had a good view towards the south-west. The country was typical of the uplands of Tibet rolling hills with black yak hair tents in places. We could see the snows around the Yartö Tra La, the pass which we were to cross on the 2nd September; there were also other snows further off to the south which we could not identify. We descended to Lap village where they produced riding yaks for us which, however, we refused to ride. From Lap we had a steep and bad descent of 2,300 feet in $2\frac{1}{2}$ miles to Trap in the Tsangpo valley, where we camped on a threshing floor. We noticed two snow peaks north of the river here. The crops were considerably ahead of those at Lhagyari, but not so advanced as those near Lenda and Dzam where we had left the Tsangpo. We made enquiries regarding the rapids in this section of the river. The drop in the river between here and Lenda is 800 or 900 feet and the distance some 40 miles. The

people told us that there was no road on the south bank on this section of the river, but that there was a bad road on the north bank leading to two villages, Genden and Lungbungang. The distance to Shetruling at the lower end of this gorge is covered in four days. The river goes down in rapids with stretches of still water between; the biggest rapid is at Lungbungang where we were told that there was a fall of about 6 feet. The road cannot be used in summer as part of it is under water, though it is possible for a man not carrying a load to travel round some difficult cliffs. Opposite Trap the Tsangpo is joined by the Öka Chu up which a road *viâ* Öka Dzong leads to the Gyalam or Chinese road. Trap and the villages on the right bank of the Tsangpo are under Lhagyari, and Tsangka and the villages on the left bank are under Öka Dzong. A few drops of rain in the evening.

28th August, Rongchakar, 16 miles, 12,050 feet.—The road goes for 6 miles through uninhabited country when a single house of Tomba village is reached, the rest of the village is a mile further on, 2 miles further is Tsa, while Rongchakar is 7 miles on at the junction of the Ch. ngra pu Chu, the stream which comes from Lhagyari which is forded before the village is reached. The north bank is more cultivated and the village of Sangri which A. K. passed through, is seen from the road. The villages in the south bank between Rongchakar and Dzam are poor and, as no main road passes through them, we had some trouble in getting transport and riding animals. There is a Dzongpön at Rongchakar who is under the Lhagyari Chief. We camped in a garden. A few drops of rain at mid-day.

29th August, Tsetang, 14 miles, 11,850 feet.—The road was good the whole way. After going 2 miles we reach Chandang village, where there is a ferry with a large wooden boat which moves to Rongchakar in winter. Two miles before reaching Tsetang we passed Nyengo ferry where ponies and donkeys were being taken out of a boat. Here we saw the ruins of a chain bridge which A. K. says was destroyed by lightning. At Tsetang we were accommodated in a room of a house. There are about 50 Ladaki Muhammadans here including women and children. Several of them, including Ata Ullah their headman, came to see us; they were keeping the Ramzan. We went to see the two *Gompas* and also paid a visit to Ata Ullah in the evening. The former have 140 and 100 monks, respectively, and were guarded by the fiercest Tibetan mastiffs. The population is estimated by Ata Ullah at 3,000. There is no official here but a Dzongpön lives at Netong Dzong, 1½ miles off. A little rain in the afternoon.

30th August, Tsetang.—We went round the bazaar this morning. It is similar to those at Lhasa and Gyantse. The people come out shortly after daybreak, and sit in rows with their merchandise in front of them until about 10 A.M. The articles for sale were mostly cheap, rubbishy things. We had a talk with the Ladaki traders, who gave us a garbled version of the news of the world. The last newspaper we had seen was dated 27th April. We were now told that Turkey had recovered all the land she lost and some more besides, that the Austrians and Russians were fighting each other. The Russians were also helping the Mongolians in a war with China. The Afghans taking advantage of these complications had declared war against Russia and defeated the Russians and taken over a tract of Russian territory. The Ladaki traders in Lhasa take in the *Paisa Akbar* and *Vakil Akbar*, which come up regularly by post. They told us that their trade was more prosperous when the Chinese were in Lhasa as the Chinese did not haggle over prices if they really wanted to purchase an article. So many Tibetans now-a-days go to India that it is getting every day more difficult to swindle them in petty trade transactions. We heard also that the Nepalese Agent who was in Lhasa in 1904 had been thrown into prison in Nepal. The ordinary trade road from Tsetang to India is up the Tsangpo to Kampa Partse which was passed by the expedition in 1904; thence it goes down the route followed by the expedition, to Ralung, from which place a short cut is taken *viâ* Nclung to Kangmar. The ordinary road *viâ* Phari-Chumbi and Kalimpong is then followed. Boats can reach Tsetang coming down stream from Lhasa in 3 days. A little rain.

31st August, Halakang, 9½ miles, 12,400 feet.—On leaving Tsetang the Ladaki traders came to see us off. Their headman, Ata Ullah, was afterwards of great service to us in giving us money in exchange for a cheque. Our road went round

the spur which separates Tsetang from Netong, another town of about the same size in which is the residence of the local Dzongpön. The road then went up the broad and well populated Yarlung valley. Three miles from Tsetang we reached a fine *Gompa* called Tramdru. The idols and altars were covered with costly decorations finer than any I have seen outside Lhasa and Shigatse. In one room were 100,000 small clay images of Lopen Rimpoche (Padma Sambhava). $4\frac{1}{2}$ miles further we reached the town of Lharu where we found a devil dance in progress. The agent of the Netong Dzongpön was here. The Dzongpön himself had been the Phari Dzongpön when I was Assistant Political Officer, Chumbi. He is now commissariat officer with the Tibetan troops in Kham. His agent was a clerk of the Gyantse Dzongpön when I was at Gyantse and recognised me. He invited us to go to his quarters where he gave us *chang* and cakes and afterwards took us to see the dance. A monk dressed in beautiful silks had, with the aid of copious draughts of *chang*, worked himself into a frenzy, when he was believed to be possessed by the spirit of a god. He was armed with a sword and a bow and rushed about shooting arrows and throwing knives at the crowd and striking them with the flat of the sword whenever he could catch them. He made six appearances always in different clothes and was supposed to be possessed by a different god each time. In the intervals he retired into the temple where we were told he remained resting in a trance. When the monk disappeared there was usually a dance by people who sometimes wore masks. One good dance was performed by 10 men dressed in steel armour and helmets and armed with bows, swords and guns. who during the dance fired arrows at each other and discharged their guns. On the outskirts of the town people were picknicking, and dancing, shooting whistling arrows at a target and generally enjoying themselves as Tibetans do on these occasions. Two miles beyond Lharu we reached the large village of Potrang. Nain Singh in his description of this valley mentions "Chukya Phutang, a large town with a fort, 400 houses, and a large monastery (Takche)." This must, I think, be Lharu which he has mixed up with Potrang. Ombu, which he mentions, is a curious building with a high tower having a golden roof. We put up in a house. A sunny day with a sharp storm in the evening.

1st September, Ramonang 12½ miles, 13,850 feet.—Our road continued up the Yarlung which gradually became narrower with smaller villages and poorer crops, as we ascended. We were obliged to change transport five times at Changdri, $3\frac{1}{2}$ miles, Bartang, 6 miles, Nyamoshung, 7 miles, Ko me, $8\frac{1}{2}$ miles, and at Shöpar $10\frac{1}{2}$ miles from Tsetang. There were several roads out of the valley to the east leading to Lhagyari and others to the west leading to Chongye. On the road we passed Dagyeling Gompa with about 100 monks. I could not get in to see the temples as the monks refused to call the man who kept the keys. We heard that some Pobas were at Sanga Chöling and Tsöna who had been robbing the inhabitants; the people about here were in terror of them and were surprised that we got through their country alive. In Ramonang we put up in a house where we found a "Government Trader" (*Shung Tsongpa*) whom we had met at Tsetang. He gave us some interesting details of his business, among others that he paid only 10 tankas (Rs. 2-8) a donkey from Lhasa to Phari, the animals being changed at every stage. A fine day with no rain.

2nd September, Chumda Kyang, 13 miles, 14,650 feet.—We had yak transport to-day. We went $6\frac{1}{2}$ miles up the valley passing several villages, when we reached a spur on which was the usual cairn of stones. From here we went along a flat valley called Dala Tang for 2 miles to the summit of the Yar Tö Tra La. We saw numbers of bharal from the road. Near the top of the pass was a rest-house. We found the altitude to be 16,700 by hypsometer, Pundit Nain Singh's height being 16,020. Up to this point from Tsetang we had followed the Pundit's road. The hills on either side of the pass were rocky and had a good deal of snow on them. We had a view of the country towards the north-east and could see the snow-peaks north of the Tsangpo near Trap which we had seen on the 27th August, also the Nyala Chamba range which we had seen on the 20th and 25th August. The rest of the horizon consisted of rolling downs. In the foreground was a plain covered with herds of yaks, sheep and goats. We could also see Chumda Kyang and some other villages and the Chem Tso, a lake some 10 miles distant. We descended 3 miles steeply from the pass passing a small lake near the summit, after which we crossed the plain $1\frac{1}{2}$ miles to Chumda Kyang where we put

up in a house. They grow poor crops of barley here which are harvested in October. We noticed a good deal of trade on the pass as it is the main road from Tsöna to Tsetang and Lhasa. A fine day without rain.

3rd September Tratsang, 10 miles, 15,000 feet.—We saw a number of gazelle on leaving Chumda Kyang. Our road went up the valley along the hillside; at one point $6\frac{1}{2}$ miles from the start, the valley narrowed to a gorge which opened out again later. On the road we met the Abbot of Ganden Rapden who was on his way to Lhasa. He was the man with whom I had had lunch on the 21st August, and seemed pleased to see us again. Near Tratsang we came upon some gold washers and obtained from them a sample of their washing which is described in the geological appendix. The gold is the property of the Lhagyari Chief. Tratsang consists of only a few huts and we had some trouble in obtaining food. A fine sunny day with hoar frost at night, the first frost we have had.

4th September, Kyekye, 12 miles, 14,600 feet.—We ascended $3\frac{1}{2}$ miles to the Pu La 15,190 feet at which point we left the drainage of the Tsangpo for the first time since entering it at the Yongyap La on the 26th May. On the east side of the pass we found a number of gold washers who were living in caves. Five miles from the pass we reached a small village called Dzongshö which is the last village in this direction and is under the Lhagyari chief. From here the road went up over hills, finally descending a rocky nullah to Kyekye. There was a good deal of game on the road especially near the Pu La; we saw gazelle, kyang, bharal and foxes, and we heard that there were *ovis ammon* near Kyekye though we did not see any. There is a quantity of aconite on the road. We pitched our tent near the single house of Kyekye which is under the jurisdiction of Guru Namgye Dzong. There was a temple in the house which an old monk showed us. A few drops of rain; there were several sharp showers on the surrounding hills which left a little snow.

5th September, Tengchung, 16 miles, 14,000 feet.—We had intended taking the direct road to Tsari and hoped to-day to march to Lilung, a village near Dem which latter place we afterwards passed on the 11th instant, but at daybreak our coolies reported that three of their number were missing and we found that the box containing our money which was placed in a verandah which we made at the door of our thirty-pound tent was missing also. Two of the thieves were Mönbas from the neighbourhood of Tawang who had been brought specially to act as interpreters when travelling in Mön-yul, the district of Tawang; we found a *dao* on the ground outside the tent, and the thieves had stolen two long Poba swords, and we thought it probable that they intended to use these weapons if we woke and disturbed them. They had stolen Rs. 600, some musk which the Pobas had given us, nearly all our shot gun cartridges which were with the money and Captain Morshead's warm clothes, besides all our tea and some of the other coolies' kit. We immediately searched for traces and found the box which had been broken open and the valuables removed. We thought that we should have a good chance of catching them as they were dressed in the warm clothing issued to them in the Mishmi hills and had no Tibetan clothes; they also had no food as we used to obtain our supplies every evening from the village at which we camped. We thought it probable that they would make for Tawang so decided to ride at once down the road leading in that direction. Before starting we sent a letter to the Dzongpön of Guru Namgye asking him to catch the thieves if they went that way and despatched one of our coolies to Tsetang to warn the Netong Dzongpön and also to give a letter to Ata Ullah, the head Ladaki in which we asked him to send money to meet us in Tsöna for which we would give him a cheque on Calcutta. We rode 6 miles down the valley to Charap where we could hear no news of the fugitives. We then pushed on $6\frac{1}{2}$ miles to Pundro and here we wrote a letter to the Tsöna Dzongpöns asking them to catch the thieves. We afterwards heard that they had sent orders all over their districts that the men were to be caught if seen. After having our money stolen we found that we had Rs. 70 left as well as five sovereigns which were sewn in Captain Morshead's clothes. We passed some more gold washers on the road but, as this gold is not private property, these people were washing for themselves and were not the Lhagyari chief's serfs as the washers we had seen before had been; further up the valley all the gold belongs to the Lhagyari chief. At Pundro we found the people sweeping up dried and pounded nettle leaves

which they eat. The river here is called the Char. The main road to Tsöna left the valley at Charap and the villages lower down are very seldom visited by anyone as no important road passes them. The people had not heard that we were travelling and we had some difficulty in making them supply us with food and transport, especially as now we were unable to pay. From Pundro we went to Tengchung passing several small villages; we slept in a house. We noticed the ruins of many abandoned villages all along the road between Chumda Kyang and here. We had no rain.

6th September, Shirap, 10½ miles, 14,000 feet.—We went down the valley to the village of Yakshi whence a road goes over the hills to Lhöntse Dzong. Below Yakshi the valley is precipitous and there is no road, so we were obliged to make a detour crossing the Gyemo La 14,900 feet and descending the Chegun valley south-east of the pass. We reached the small village of Shirap where we stopped in a house. From the pass we saw some snow peaks down stream above the right bank of the river. From here there is a road over the hills to Karpo the village at which we stopped on 8th instant. Peas and barley are the only crops. A little rain in the evening.

7th September, Bung, 15 miles, 12,000 feet.—We went 3 miles down the Chegun valley to its junction with that of the Char. The valley above the junction is called Char tö (Upper Char); below it is called Char me (Lower Char). We noticed pheasants on the road here. At Reshō village, 6½ miles from Shirap, we had some trouble with our transport. The Shirap people said that the Reshō people should relieve them; the latter maintained that they should take over our baggage at the next village. After fighting with fists and stones the Shirap people were obliged to go on. As no official entitled to *ula* had been on this out of the way road for years the people were uncertain as to where the changing places were. Lopas occasionally come up the valley as far as Reshō to trade. Five miles further, we reached Shō Shika the estate of a monk official named Lotrö La who is the agent of the Tibetan Government in Kalimpong. His servants had cushions ready for us on the road where we rested and where we were given *chang*. One of the servants who was sent out to meet us recognised me; he had been with the Sechung Shape to Gyantse when the Shape came down in connection with the war indemnity in 1906. Two miles beyond Shō Shika at a large *chorten* the road to Lhöntse *via* the Mo La left our road, 1½ miles further we reached Bung a fine house on a terraced spur the property of the Lhagyari chief. We found his agent to be a very obliging man who presented us with some biscuits made in Calcutta. He also sent a letter to the Lhöntse Dzongpön telling him about the loss of our money. He had seen me in Gyantse once when I accompanied Captain Steen on a vaccinating tour on which occasion we had stopped a night in his house. There is a little gold in the river here and down as far as Sanga Chöling, but none below that place. As we descended the valley to-day it became gradually more wooded, the trees being rhododendron, juniper, birch and willow with a few firs lower down. The valley is very steep with tree jungle on the right, and bushes on the left bank. Round the village are poplar and peach trees. We had some rain in the evening.

8th September, Karpo, 13 miles, 12,100 feet.—Our road led us about 4 miles down the Char valley, when we left it and ascended the valley of the Karpo Chu. The Char valley continues about 8 miles down to Sanga Chöling. The road up Karpo valley is a good deal used as it is the direct road from Sanga Chöling to Lhasa. On the road we met an incarnate lama of Sanga Chöling. The hillsides were covered in bush jungle as far as Karpo Shika, the place at which we stopped. We camped in a summer-house in a garden. One storm in the afternoon.

9th September, Kambado Drok, 7½ miles, 15,700 feet.—We went 3½ miles up the valley to Yu tö, the highest village in the valley. Travellers from Lhasa usually march here from Kyekye. The next day they marched 4½ miles to the lowest village in the Karpo valley from which place they reach Sanga Chöling in one day. This plan ensures their sleeping in the shelter of a village each night. From this valley there are roads in many directions; several lead to Char tö, the part of the valley we were in on the 6th instant; other roads lead to the upper part of the Trulung valley which joins the Tsangpo at Tromda. From Yu tö we ascended the valley for 7 miles to the Druk La 16,600 feet. This pass is at the eastern end of Lhakong plain, near the pass are 2 small lakes called Tsomo Nyitri from which the

Lhakong tö Chu which flows past Kyekye takes its source. Lhakong is a broad open valley leading down to Kyekye and on it we saw several *droks* or encampments of yak herds. We also saw gazelle and bharal and snow-cock here, and partridges lower down the valley. Our intention had been to camp somewhere in the neighbourhood of the pass but it was necessary for us to reach a yak herds camp as otherwise we should have had no fuel, and the nearest of these had been moved some distance away as the Pobas had been travelling on this road had been robbing the people. We saw that the coolies carrying our kit could not reach the *drok* so hurried back to stop them at the foot of a valley which came from the Kamba La. We camped just above the limit of fuel, but were able to collect a little yak-dung and found some sticks left by a former occupant of the ground. A sharp storm of rain in the afternoon and a hailstorm on the Druk La.

10th September, Pumkar, 9 miles, 13,200 feet.—We climbed very steeply $1\frac{1}{2}$ miles to the Kamba La 17,100 feet. There were some bharal on the pass of which I shot two. We descended at first very steeply down the valley of the Trulung Chu which we had previously known at its junction with the Tsangpo near Tromda, $5\frac{1}{2}$ miles from the pass we reached the first house Kulum, one mile beyond which was the larger village of Trulung. At Pumkar we pitched our tent outside the village. Several roads joined ours from valleys on both sides, those to the east leading to Karpo and those to the west to Lhakong plain. On the pass our coolies collected some of that curious fungus (*cordiceps*), which grows out of a dead caterpillar, is valued by the Chinese as a medicine. This road *viâ* the Kamba La is very little used; the direct road from Karpo to Dem leaves the road we followed at Doshö and crosses the Ra La. At the Kamba La we entered the province of Takpo which we had left at the Puram La on the 25th August and we also crossed into the drainage area of the Tsangpo. Some snow fell when we were on the pass and heavy rain fell in the evening.

11th September, Trupchuka, 14 miles, 14,950 feet.—Three miles from Pumkar is reached the village of Sem in which was a large house the owner of which had pitched tents in the garden, where he had prepared a hot meal of vermicelli for us and our servants. Three miles further we reached Dem opposite to which was Tsila *Gompa* at the mouth of the valley which comes from the Ra La. We crossed to the right bank of the stream and climbed a spur from where we had a good view down the valley and could see the fields round Guru Namgye Dzong though we could not actually see the houses. The cultivation about here is on a terrace some 300 feet above the stream. The crops were being harvested. Three miles from Dem we reached a temple called Bumda Sebum which was built round a large *horten* under which a holy man had buried a hundred thousand devils who used to worry the pilgrims on their way to Tsari. Five miles further going up stream we reached Trupchuka. It rained heavily in the evening. The part of the valley in which Trupchuka lies is much wetter than that lower down, and the vegetation is different, while we were in heavy rain we could see clear sky to the north in the direction of the Tsangpo. The largest trees just below here are cypress, though the village itself is too high for large trees to grow.

12th September, Chösam, 17 $\frac{1}{2}$ miles, 14,200 feet.—We travelled six miles up the valley to the Kongmo La (17,520 feet). The ascent of the last 500 feet was very steep. There was some permanent snow near the pass. From the pass we travelled 5 miles down the valley, passing a yak herd's encampment on the way where we took shelter from a storm, after which we reached the junction of three valleys called Chorten Namu which Kinthup mentions. One of these valleys leads *viâ* the Chala to Sanga Chöling and one *viâ* Trorang La to Karpo, the third being that which we had followed from the Kongmo La. From here we went 6 miles down to Chösam, the valley gradually becoming more wooded as we descended. We saw a good deal of game on the road, bharal, wolves, a musk-deer and a herd of *shao*, one of which I shot. At Chösam there are six houses made of good stone walls and pent roofs of shingles held on by stones. The climate of this valley is very wet and the vegetation is quite different to that north of the Kongmo La. No crops are grown in any of the villages in this part of the valley as the ground is considered sacred. The people were shocked that I had killed a stag as no animals may be killed here. I offered to atone for my sin by going round the pilgrimage which they thought was the best thing I could do under the circumstances. We had a good deal of rain off and on all day.

13th September Chikchar, 15 miles, 12,700 feet.—Our road lay down the left side of the valley and was rough, stony and muddy, $2\frac{1}{2}$ miles below Chösam. We passed two *chortens* which form the boundary between the land belonging to Chösam and that of Chikchar. Beyond this the valley opened out into a marshy plain called Senguti. From this point for 6 or 7 miles down, the bottom of the valley is flat and marshy, and numbers of ponies are sent from the neighbouring districts to graze in summer. We saw ponies from Talha Kampo Gompa on the Tsangpo and from Sanga Chöling. The valley is here well wooded and resembles the Chumbi valley. The hills were covered in clouds below which on the southern side we could occasionally see the ends of snow fields, and we were told that there was a range of snow in the clouds. We passed the small village of Totsen near which a large part of the hillside had been fenced off into an enormous paddock used for breeding ponies and mules. $13\frac{1}{2}$ miles from Chösam we reached Yarap, a small village in which some of the Chikchar people live in winter when the ground is under snow. All the women from Chikchar are obliged to live here in winter, so that the monks in the holy temples can meditate without being distracted. Here we crossed the river by a bridge to the right bank and crossed a spur to Chikchar which is 1 mile from the river up a tributary. As we approached we were taken round a holy rock and asked to dismount at a certain stone where everyone, including even the Delai Lama, who performed the pilgrimage in 1900, is obliged to dismount. Chikchar is a large village with one golden roofed temple and a *Gompa* of 12 monks. A good deal of rain.

14th September, Chikchar.—This morning a small official called on us who had seen Mr. White in Bhutan some years ago. He told us a good deal about the pilgrimages which are performed here. We visited the temples and found the principal one was in honour of Dorje Pagmo and called Pagmo Lhakang. The ornaments on the idols were fine and the altar lamps of gold. The Delai Lama stopped in this temple when he went round the pilgrimage. There was also a small *Gompa* up on the hillside which we went to see; these monks belonged to a special order and wear long hair. It rained all day.

15th September, Migyitün, 12 miles, 9,630 feet.—We went down the Tsari Chu passing the single house of Pödzo Sumdo about half way where the road from Kyimdong *viâ* the Bimbi La comes in; the road was very rough. At Migyitün we found about 20 scattered houses; the people had pitched tents for us to stop in. As we descended the valley the forest became thicker and here it is not unlike that of the Mishmi hills. Wheat, barley and potatoes are grown here but no maize. In the forest are *takin* and other animals which the people are allowed to shoot as the restriction as regards killing does not extend to here. Near here on the hills north of the river is a holy lake Tsokar which was visited by Kintshup and where there is a *tsukang* or house where a man is stationed to help the pilgrims. This place is reached after crossing three passes whose names indicate the gradual rise out of the forest to the bare hills above; they are called Na La, "forest pass"; Pang La, "turf pass"; and Tra La, "rock pass." The people here are rather different to the ordinary Tibetans; they do not wear boots and smoke pipes similar to those of the Mishmis and Abors and quite unlike the Chinese pipe used in Tibet. They told us that the valley below their village is too steep for cultivation and that the frontier of Tibet is just below their village but is undefined. Lopas come up the river in winter to trade but are not allowed above Migyitün. From them they had heard rumours of the Abor Expedition or of the Miri Mission, we could not be clear of which. Captain Morshead attempted to go down the valley but after about 4 miles was stopped by a broken bridge. They told us that the river turned south to India and did not join the Tsangpo. We found two Pachakshiri men here who had come to trade. They had travelled *viâ* the Lo La and the Bimbi La crossing the main range twice as there is no road south of the range. A good deal of rain with heavy clouds all day.

16th September, Chikchar, 12 miles, 12,700 feet.—We returned up the same road. In the evening a letter came in from Ata Ullah, the Ladaki merchant of Tsetang, to say that he would bring money to us at Tsöna. Some rain.

17th September, Mipa, 11 miles, 15,300 feet.—Captain Morshead returned to Chösam *en route* for Sanga Chöling by the direct road. I started on the shorter pilgrimage called the *Kingkor*. I climbed 5 miles to Lapu (14,800 feet) the first

rest-house. At each rest-house (called a *Tsukang* in Tibetan) a man lives who is obliged to give the pilgrims fire wood and hot water. From Lapu the road climbed steeply over sharp rocks to the Drölma La, 16,100 feet. No woman is allowed to cross this pass. Three miles below the pass by a marshy flat, is Mipa, the second rest-house. There are dwarf rhododendron here, but no larger trees. I found some fossils on the pass which are mentioned in the geological appendix. Mr. Hayden is of opinion that they are perhaps jurassic but are not sufficiently good for determination. A good deal of rain.

18th September, Potrang, 14 miles, 14,700 feet.—We left Mipa and ascended the Shagam La 16,100 feet. From the road we could see the Mipa stream flowing in an easterly direction down a wooded valley for some 10 miles. The road up to the Shagam La was over a half-dead glacier. There appeared to be a large snow peak about a mile east of the Shagam La. The peak was in clouds underneath which we caught glimpses of snow fields. From the pass we descended 2 miles into forest of fir and then ascended to the Tama La, a spur near which is the third rest-house 14,400 feet above sea level and $6\frac{1}{2}$ miles from Mipa. From here there is a short cut to Taktsang, the fifth rest-house on the pilgrimage. We continued along the pilgrimage road which crossed several spurs clear of forest, each of which has a name. At one point we passed Kandrotang, a small lake where Kintgup says that the goddess Drölma used to keep her cattle. The formation of the ground and the dense clouds prevented the river which flowed on our left hand from being seen from the road, and we could not tell in which direction the river finally flowed, but were told that it joined the Tsari Chu below Migyitün. At one point we left the longer pilgrimage road which goes further west and finally reaches Potrang *via* the Keju La, and we took a short cut over the range by the Go La (15,300 feet) and went over open hills to Potrang, the fourth rest-house. There is a small holy lake here round which our coolies walked after our arrival. There are two rest-houses here, one kept up by the east Tsari people, those of Chikchar and the other by the west Tsari people of Yüme and Chösam. On the road there were quantities of small white maggots on account of which the pilgrimage is closed in October as it is impossible to walk without treading on them, and were one to be killed by a pilgrim, the benefit derived from the pilgrimage would be effaced. We were $9\frac{1}{2}$ hours on the road. A good deal of rain.

19th September, Tomtsang, 15 $\frac{1}{2}$ miles, 12,600 feet.—Our road was fairly level for 4 miles, passing a lake after which it reached a place where it rose over some almost vertical natural steps. A mile beyond this point was the Tapgyu La, 15,400 feet. From the pass we descended steeply, gradually entering fir forest. At a small marshy flat was a hut at which point the short cut from Tama La rest-house joined our road. $8\frac{1}{2}$ miles from Potrang we reached Taktsang, the fifth rest-house 13,200 feet. From here we rose to the Sha ngu La formed of three spurs, the highest of which was 15,500 feet; one mile to the east was a snow peak much hidden in clouds. From the pass we went down 3,000 feet to Tomtsang, the sixth rest-house in a forest of fir trees. We found a woman in charge of the rest-house here, but they are not allowed to go further along the pilgrimage being excluded from the road between the Drölma La and this rest-house. From the Sha ngu La there is a bad road to Chikchar by which the coolies who had come from Chikchar with me returned. It is the duty of the Chikchar people to carry loads for officials up to Potrang and for the Yü me and Chösam people to carry the remainder of the pilgrimage. A good deal of rain all day.

20th September, Yü tö, 15 miles, 13,200 feet.—The road went down stream through the forest and turning up a tributary stream reached Chakta Trang, the seventh rest-house, 4 miles from Tomtsang. The rest-house is 14,100 feet above sea and among small rhododendrons. There are several small lakes in the hills round here. 1 mile from the rest-house is the Karkyu La, (15,000 feet,) from which we got a good view of the broad open valley which leads to Simoneri, the eighth rest-house, 4 miles from the pass and 13,500 feet above the sea. In this valley some *shao* were grazing. From this rest-house the road goes very steeply down beside a stream $1\frac{1}{2}$ miles to Yü me (11,800 feet) a village of 12 houses and a large temple, the ninth rest-house. This village was destroyed by Lopas in the autumn of 1906. From Yü me the road ascends 2 miles through forest to Gompo Rong, the tenth rest-house (12,500 feet) where there are 2 good stone houses. $2\frac{1}{2}$ miles further up the valley is Yü tö (13,200 feet) just below the fuel limit. At Yü tö the 11th stage

on the pilgrimage there are 4 houses, which as well as those at Yü me are similar to the Chikchar houses being well-built of stone with wooden roofs. From Yü tö the pilgrims cross the Rip La and stop at the Rip La rest-house which is the twelfth stage. They then go to Chösam, the point at which they commenced, thus completing the pilgrimage. A good deal of rain.

21st September, Sanga Chöling, 18 miles, 10,900 feet.—We went 8 miles up the valley to the Takar La 16,700 feet, the weather being so bad that we could see nothing of the country. From the pass we descended 3 miles to the road which came from the Cha La which Captain Morshead had followed a few days previously. We then followed down the valley to its junction with the Chayul Chu at Sanga Chöling passing the small village of Kyü on the way below which the stream was in a very narrow gorge. The country this side of the pass is remarkably dryer than the Tsari valleys. The vegetation shows this while at Sanga Chöling itself, we again found flat roofs and irrigated cultivation and the valley appeared to be much dryer than at Bung, one march upstream, the place at which we had camped on 7th September. On the road we saw some snowcock and pheasants and spent our last shot gun cartridges. Captain Morshead had passed through here a few days before and I was given a cordial reception. Some of the officials of the *Gompa* came to see me. I had known the brother of one of these men in Gyantse, while the official himself had met Major O'Connor there. They led me into a nice clean summer-house and brought presents of various kinds of food. Among others the brother of the Drukpa Rimpoche, the holy incarnation of the *Gompa*, came to see me. He had been in Bhutan and India. The Lama himself was on a pilgrimage in Kongbo, and we had missed him by two days at Chikchar. Another incarnate Lama who had just left here was the man who had fled from Gyadzong in Po me on the arrival of the Chinese. We had visited his *Gompa* on the 1st July. Heavy rain as far up as to Takar La after which it was fine.

22nd September, Char me, 10½ miles, 10,600 feet.—Before starting this morning the officials of the *Gompa* showed me round the temples. There was one large image of Buddha which had been cut on the shoulder with a sword during the Tartar invasion in the beginning of the 18th century. The scar had, they said, healed up in the same way as a wound heals on a man, and the raiders had all fallen dead on the ground, blood streaming from their mouths. The road lay down the left bank of the Char Chu through dry hills. Along the road were numbers of peach trees bearing ripe fruit. We passed the village of Tangor and also Chingkar where there was a tower similar to those we had seen in the Tsangpo valley. Just below Chingkar our road crossed the right bank which it followed down to Char me. Here I found Captain Morshead who had succeeded in getting some distance downstream where he mapped the junction of the Char with the Chayul valley. At Raprang he found the ruins of a village which had been destroyed by the Lepas in 1906 and which had never been re-occupied by the Tibetans. Heavy rain in the afternoon.

23rd September, Kyimpu, 7 miles, 13,400 feet.—We travelled up the Kyimpu stream crossing it twice to avoid a cliff. We passed two small villages, Gyü and Chimckang. At Kyimpu, the country appeared to be damper, the roofs of the houses were of wood and sloping and the cultivation unirrigated, both at Char me and at Drü in the Char valley and also at Gyandro and Nyerong in the Chayul valley which we reached the next day, the crops were irrigated and the roofs of the houses flat. This confirms what we had noticed in the Tsangpo valley, namely that the country near the summit of the range is wetter than the valleys. From Char me, there is a road to Trön in the Chayul valley *viâ* the Drichung La which takes two days, but which is impassable for animals. A little rain.

24th September, Nyerong, 16 miles, 12,500 feet.—We ascended 6½ miles to the Lo La 17,180 feet, the road being at first through bushes in which were numbers of pheasants (*Crossoptilon*), while near the summit of the pass we saw some bharal. The weather was cloudy, but we saw a snow peak about a mile north-west of the pass and some others about 20 miles off slightly to the west of south. The descent from the pass was at first very steep, but later less so, and 5 miles from the pass we reached Gyandro the first village. 3½ miles beyond this after passing through a narrow gorge we reached the bank of the Nye Chu down the left bank of which

we went one mile to Nyerong. The water for irrigating is taken from the Gyandro Chu and carried round cliffs in wooden troughs to Nyerong. We had a little rain in the morning.

25th September, Kap, 12½ miles, 11,400 feet.—This morning before we left Nyerong one of our coolies who had been sent to Tsetang returned with a letter from Ata Ullah, the head Ladaki, who said that as he had heard that we had returned to India through the Lopa country from Tsari he would return to Tsetang with the money he had brought. He wrote from Yu be village two days' march upstream. We immediately sent men to get the money from him and eventually received the money in Tsöna. In this matter Ata Ullah was of the greatest service to us. We went down the valley crossing to the left bank below Nyerong and continuing to the junction of the Nye and Chayul rivers. The Chayul Chu was slightly the larger of the two rivers and was very muddy; this is caused we afterwards discovered by the mud brought down from the snows by its tributary the Loro Nakpo or "black Loro." A quarter of a mile above the junction we crossed the Chayul to the right bank and passing Komlha went to Kap. The hillsides were very dry and steep and the water for irrigation taken in wooden troughs. At Kap we found a party of 17 Lopas (Dobas) including two women who had come over the passes to trade. They are not allowed further up the valley than this village. They were very wild people and had never heard of Europeans before. They asked us to exchange our clothes or our food with them and also asked us to perform religious ceremonies that their journey might end successfully and their homes be found safe on their return. It had taken them 8 days to come from their village carrying heavy loads and they passed no other villages on the way. None of them could speak Tibetan, but one or two of the Tibetans knew a little of the Lopa language. They did not understand money and their business is transacted by barter. Two Pobas, one of whom we had met at Dre on the 2nd July and again at Dzeng on the 6th August, came down from Tsöna to see us. A fine day with no rain and with a strong cold wind blowing upstream all day.

26th September, Drötang, 18 miles 11,200 feet.—Before we left this morning the two Pobas who had come down from Tsöna came to see us. They asked us to give them letters to people in India as they wished to go there to trade, and never having left their own country they were alarmed at the prospect. They also told us that the Pobas of Po me were going to punish the people of Po tö for the assistance they had given the Chinese and asked whether the Government of India would help them in this business. They had with them a new Martini-Henry rifle made by the Army and Navy Stores which had been given to the incarnate Lama of Gyadzong by the Drukpa Rinpoche, the incarnation of Sanga Chöling Gomba, who had received it from the Maharaja of Bhutan. One of the Pobas had been to Rima and up the Rong tö Chu as far as Sole, a place which is probably identical with the Soling of A. K. An incident occurred last night which throws some light on the habits of the Lopas. The whole party were sleeping on the ground in a verandah when a Tibetan walked past and seeing something on the ground bent down to see what it was. It proved to be the foot of one of the Lopas who sprang up from his sleep and struck the man with his sword. In most other parts of Tibet where the people have dealings with the wild tribes the latter are not allowed to enter the Tibetan villages, and we advised these Tibetans to enforce the same rule to avoid trouble. Our road was bad along wooden galleries and impassable for animals, after going 3½ miles we crossed the river to the left bank and 2 miles further came to a vertical ladder 30 feet high which was fixed on a pillar of masonry about 50 feet in height, 5 miles further we reached Trön Ta village. From here we descended 1,300 feet to the river and after crossing by a bridge climbed a similar height on the right bank to Trön Trip village where we were obliged to wait some time for transport and where we obtained some interesting information regarding the Lopas who come here to trade. We passed about 40 of these people on the road, many of them carrying heavy loads of madder. The country here is very dry and all the cultivation is irrigated. From Trön Trip we travelled 6 miles mostly in the dark to Drötang. About Drötang the forest begins and we saw a few pine trees. They told us that in winter they had about 2 feet of snow at Drötang while up the valley at Trön Trip the climate was dryer and snow never fell more than 4 or 5 inches deep. We had no rain, though the day was cloudy.

27th September, Trôn Trip, 6 miles, 10,700 feet.—This morning we sent our kit back direct to Trôn Trip and ourselves descended 1,000 feet to the river bed to a small flat called Natrampa where we found a family of Lung tu Lopas in a hut. These are the people who were defeated by the Tibetans in 1906. Three miles below this point we could see a large valley which joined the right bank of the river on the right bank in which 1,000 feet above the water was a small temple called Karutra. Here a single monk lives the whole year round to keep the lamps burning on the altar; once a year on the 14th day of the 4th month (in May) the people of the nearest villages perform a pilgrimage to this temple and some of them extended their journey to a holy lake called Lagya Yum Tso which is over the pass at the head of the valley. This temple is the lowest Tibetan habitation in the valley. We returned to Trôn Trip by a road about 300 feet above the bed of the river and at one point had to climb a 20-foot ladder. There were quantities of quite good peaches on the road, which are used to feed pigs. A little rain in the morning.

28th September, Chayul Dzong, 17 miles, 11,450 feet.—We retraced our steps 16 miles along the road which we had previously followed, to the bridge over the Chayul river above its junction with the Nye; one mile further up the left bank of the Chayul stream we reached Chayul Dzong and Chamchen village. Like Lhagyari; this place has two names, one being that of the village and the other that of the Dzong; the name of the Dzong is better known as it is used in official matters. On the road below Kap we passed a party of Lopas from whom we wished to buy some honey, but they would not take money, nor did they want any of the things which we were able to offer them. They asked us by signs for about 18 inches of white shell head necklace which of course we had not got. The Dzongpön received us here and gave us a garden in which to camp. A fine day with no rain.

29th September, Tro Shika, 18½ miles, 12,350 feet.—We went up the Chayul valley all day crossing the stream twice, 3 miles and 13 miles from Chayul Dzong. There were no bridges fit for animals to cross between these two. Several villages are passed; from Takpa close to the first bridge a river leads over the range to Lhöntse Dzong. 9½ miles from Chayul Dzong we crossed the Moga Lendze stream up the valley of which is a *Gompa* from which a pilgrim road goes round Takpashiri, one of the snow peaks on the range. This pilgrimage takes five days. The hills are very bare and the country dry. At Tro Shika we found tents prepared for us among willow trees in the garden of a rich man's house. No rain.

30th September, Shio Shika, 8½ miles, 13,200 feet.—We commenced by marching 2 miles up the valley to Trashi Tongme, a *Gompa* of 40 monks, who are housed in a very large building. This was at the junction of the Loro Nakpo and Loro Karpo streams (*i.e.*, the black and white Loro). We changed our transport at the *Gompa* and went on 1 mile to the house of a small official, the Kishung Depa, as we had been told that the road we wished to take up the Loro Nakpo went round *viâ* Kishung Shika to avoid a gorge in the river. We found the Depa at home who told us that the direct road went from Trashi Tongme up the valley and that there was no gorge. We had frequently been sent a long round about road in this way, the reason being that by the direct road the Trashi Tongme people were bound to carry our loads to Shio, 6½ miles, while *viâ* Kishung Shika they would only carry 1 mule when they would be relieved by the Kishung people. The Depa was rather suspicious of us and asked for our passports and did his best to dissuade us from following the Loro Nakpo valley. The Mago district is the property of Samdru Potrang, one of the rich Lhasa families, and the Depa is an agent of the family who collects the taxes from the Mago people and generally exercises control over them. He told us that he was on bad terms with the owner of Shio Shika and that we would have difficulty in getting transport there as the man had a special exemption for his subjects. On the wall of his room was a photograph of the Kyibuk Rupön and his wife which I had myself taken at Gyantse some years before. He had been given it in Lhasa. One of the Depa's servants was a convict who had been condemned to wear chains on his legs for life. The Depa refused to give us a man to accompany us into the Mago district, but sent a message on to say we were coming. He was evidently afraid of the responsibility of helping us too openly. While I was arguing with the Depa, Captain Morshead had climbed the

hills on the north of the valley where he was fortunate enough to get a trigonometrical fixing on the snow peaks south of the valley which had been previously fixed from India. His station was the hill on which corpses are cut up and given to the birds in the usual Tibetan way; on seeing his party on the hill numbers of vultures appeared only to be disappointed in their hopes of a meal. We turned back from the Depa's house and went up the valley of the Loro Nakpo and crossed to the right bank about $4\frac{1}{2}$ miles from Trashi Tongme and 2 miles further reached Shio Shika, a group of clean-looking whitewashed houses among poplar trees. The valley up which our road had come was very narrow and the hills steep. Near the house was a small *Gompa* on a cliff, the road to which had been made in the face of the cliff and climbed up inside the hill. The Shio *Tungkor* was at first suspicious of us and asked for our passports and we had to spend some time explaining why we had none. He had been at Gyantse when Chang Yin Tang had come there in 1907, but did not know me. He had also for some years been Dzongpön of Tsöna and at present held the office of Dzongpön of Chudzong in Po me, but had never visited his charge and his work there was being performed by an agent. He at first refused to give us transport, saying that his people were exempt. In the evening we found a herd of bharal on the hill above the house on which we fixed our telescope and invited his small children to look at them, which delighted them so much that they ran and called him up, after which he became quite friendly and told us he would do his best to help us. He was a great dog fancier and had many toy dogs, one of which he said was 18 years old. No rain.

1st October, Cha, 11½ miles, 14,300 feet.—We had hoar frost last night. We had almost run out of money and persuaded our host to change two sovereigns; he tested them on a black touchstone and said that they were not pure gold; but agreed to change them for Tibetan coins when we told him that any trader who went to India would be very glad to take them. We travelled 7 miles to Karta village which is situated on flats at the junction of two streams. I climbed a hill above the village after a herd of bharal and I saw a snow range some forty miles distant down the valley which must be the peaks near the Le La. At Karta we found a Kashmiri trader whom we had met at Tsetang. These Kashmiris occasionally travel about the country with their wares, but prefer to remain in the large towns. From Karta we proceeded up the valley after taking over yaks instead of the coolies who had been carrying for us, and after going $4\frac{1}{2}$ miles reached the small village of Cha, $1\frac{1}{2}$ miles below Cha we passed Guchu village from which place a road leads to Tsöna. We put up in a house. No rain.

2nd October, Seti, 12 miles, 16,000 feet.—We went 3 miles up the valley to Pendo, the last village in the valley. The people had prepared a reception for us with *chang*, tea and milk. From here a road leads over the range to Tsöna, one day's march for a mounted man. The water near here was all frozen except where touched by the sun. From the village we went $6\frac{1}{2}$ miles up the valley in the Pen La (17,330 feet). We saw four herds of bharal on the road; there are great numbers in this and the Seti valleys. It was extremely cold on the summit of the pass with a biting wind from the south; we saw the snows near the Le La which I had seen yesterday. We descended the valley $2\frac{1}{2}$ miles when we reached a deserted yak herd's camp on the right bank of the stream where we camped. There was no fuel except yak-dung. A fine day.

3rd October, Goshu Shö, 11 miles, 14,500 feet.—Light snow fell in the night on the hills to the south. We crossed the valley and climbed up the hillside along which we travelled $3\frac{1}{2}$ miles to a spur, the Zandang La, from which we had a distant view down the valley, which we could see was wooded lower down. In the far distance down this valley we could see a snow range. From the Zandang La we went 2 miles up a valley to Chupda, a yakherd's camp. There are said to be *ovis ammon* in this valley but, as the camp has been occupied for about a month by yak herds, the animals had moved away; we saw some bharal. From Chupda we climbed 1,300 feet, mostly steep, in $1\frac{1}{2}$ miles to the Tulang La (17,250 feet). From the pass we had a good view to the north and slightly west of north saw a distant snow range. There was a good deal of snow near the pass, especially on the east side. We descended from the pass 4 miles to this camp at the junction of two valleys and where the first fuel was growing. Some snow fell when we were on the pass and we had heavy rain in the afternoon.

4th October, Mago, 11 miles, 11,800 feet.—We were obliged to make a late start as our yaks had strayed. We went down the valley $5\frac{1}{2}$ miles to Chuna, crossing the river several times; at Chuna were a few huts in which graziers were living. Five miles further down the valley we found a hot spring on the left bank and half a mile further reached this village. There were snow peaks on either side of the valley and we were told that no roads lead over these ranges in either direction. The country gradually became more wooded as we descended and large trees began to appear near Chuna. Mago consists of two villages, Nyuri and Duri, at the latter of which we stopped. The people are peculiar in their dress and are much cut off from Tibet, the women particularly wear a quantity of jewelry consisting mostly of amber beads. The houses are of stone with usually a wooden roof, though we saw some slate roofs. There are no crops, the people live on the produce of their yaks, exchanging butter and cheese for grain. They pay a tax of madder to the Kishung Depa which they obtain by exchange from the Mönbas and Lopas. There is one small temple to which a monk from Karta occasionally comes to read prayers and beat the drums. The people are quite illiterate, and we were, therefore, unable to get the names of places in their valley written in Tibetan characters. Some rain in the evening.

5th October, Mago.—We could not march to-day as the people had to collect their transport yaks from a distance. Showers all day.

6th October, Lap, 12 miles, 14,700 feet.—This morning we could get no yaks. After getting very impatient we sent over to Nyuri village across the river when we found that, for some reason we could not fathom, the people were keeping our yaks concealed in the house. We at last got them and made a late start. Our road led us 4 miles to the Chera La, 14,100 feet, a pass on the spur dividing the Dungma Chu, the river which flows past Mago, from the Gorjo Chu. At the head of the Dungma Chu we could dimly see a snow peak, Gori Chen, while down stream from the pass we could see the junction of the two streams, and below this a clearing in the forest which was said to be Timbang village, but our guides had never been down the valley and could not be certain. From the pass there is a road down stream to Lugutang, a village inhabited by people similar to those of Mago. We passed several Mönbas who were coming up to Mago to trade, carrying madder. Our road lay 4 miles up the Gorjo Chu to a flat marshy plain, evidently a silted up lake bed. Beyond this we gradually left all trees behind, and after passing some graziers' huts called Chumba reached some more huts called Lap where we found the inhabitants of Lagam who were looking after their herds of yaks. These people, like those of Mago whom they resemble, live up in these high valleys all the summer and retire to Lagam only from the end of December to the end of May when these upper valleys are under snow. They live in stone huts with roofs of wood or slate in one of which we put up. Some rain and a little snow.

7th October, Samjung, $9\frac{1}{2}$ miles, 12,850 feet.—We had hard frost last night. Our yaks had strayed in the night and we were obliged to make a late start. We climbed 3 miles to the Tse La (15,600 feet) just beyond which we passed a lake $\frac{1}{2}$ mile in length. Near this pass is the Namsanga La by which Daflas came to Mago to trade. We descended a very bad boulder-strewn road gradually entering fir forest and passing several huts. The Mönbas build huts on all the uninhabited roads which they use, and which are locally called "*Drang*" or "*Pangkang*". The Tibetan, on the other hand, is quite content to sleep in the open in his dry climate. We passed a small Mönba official riding from Namshu village who was on his way to Mago to collect a tax. A fine morning and a cloudy afternoon with no rain.

8th October, Kyala, 8 miles, 12,500 feet.—We had hard frost again last night. Our road led us up on to the range dividing the Ele Chu from a branch of the Bhoroli $4\frac{1}{2}$ miles from camp we reached the Pöshing La (11,950 feet) on this range, from which point the road followed down the spur through rhododendron forest. This spur forms the frontier between Tibet and the Miji country. We could see the hills on the south of the Dirang Chu and also the fields of Sangti village in the Dirang valley. On reaching the hut at Kyala we halted as we had not been able to see anything of the surrounding country owing to clouds, and we hoped for fine weather next morning at which time of day we have had it fine for the last few days. We sent one of our coolies on to Lagam to collect some coolies from the

neighbouring Mönba villages, as we hear that Lagam is practically deserted, and our yaks cannot descend into the valley beyond that place owing to the heat and low elevation. We passed a great number of Mönba traders who were taking chillies and madder to Mago, some of these men spoke to us in Assamese. We spent the afternoon in clearing a hill above the hut at which we camped in order to do some survey work in the morning. A little rain in the evening.

9th October, Lagam, 10 miles, 9,200 feet.—We had a fine morning and were well rewarded for having halted here. In the south-east we could see the plains of India, further west we could see the fields of Dirang and the valley of the Dirang Chu as far up as Sengedzong; we were told that the Se La was also visible but that portion of the range was in clouds. A little east of north were some high snow peaks about 30 miles distant, the Gori Chen group. Our road lay down the spur west of a branch of the Bhoroli. On our left we could see two Miji villages called Debden and Matan. We passed several wooden huts at which the Mönbas rest on their journeys and also saw considerable signs of the trade on this road. We passed 100 loads of merchandise mostly chillies, and madder (*Rubia cordifolia*) all of which was being taken to Mago. It is hard to understand how the small and poor colony of Mago can afford to buy all this, especially as they get a good deal from the Daflas as well. From the Kanga La 9 miles from Kyala we caught a glimpse of Lagam village 1,600 feet below us and only 1 mile distant by road. We could also see Pangma village. At Lagam we found only one family who were looking after the houses and property of the others who were herding their yaks at Lap. Our transport yaks were hurried back as soon as they arrived, as they feel the heat and low elevation. The houses are of stone with bamboo matting roofs. There were a few leeches here and also "damdim" flies, pests which we had not seen since we were in Pemakö. No rain.

10th October, Tembang, 9 miles, 7,600 feet.—We could get no transport, and the man we had sent ahead yesterday had not returned from the Mönba villages, but at about midday he arrived with a few coolies, from Pangma village, and we were able to start. Half a mile from Lagam the road takes off to the left which leads *viâ* the Gogyang La to the Miji villages of Debden and Matan. We descended $3\frac{1}{2}$ miles to some huts called Shamshing standing in fields of marwa. This was at an altitude of about 6,500 feet, the lowest point we had reached, since we left Po me. From here our road was very good, climbing through oak forest to Tembang. The people here were at first disobliging and refused to give us a house to sleep in or to provide us with transport. We had a good view down the Dirang Chu and could see the large village of But on a spur above the left bank; beyond this we were told was Konia, the last Tibetan village. On the opposite bank the Tibetans do not go so far down stream and we could see Munda, an Aka village above the right bank. The crops here are maize and pumpkin grown together, buckwheat and marwa. There are a few peach trees. Below Tembang on the opposite side of the river are Rahung and Kudam two villages where there are rope bridges across the river. From Rahung a road leads *viâ* the Rib La one day to Dukpen or (Rupa) in the Putang valley. A little rain in the evening.

11th October, Namshu, 7 miles, 6,400 feet.—We had some trouble in getting transport, as this part of the valley leads nowhere and is never visited by officials and the people are not accustomed to supplying transport; our difficulties were also increased by the fact that we had absolutely no money left except three sovereigns, which are not current here. We at last got off and went up the valley through oak forest to Namshu. The houses of all the villages here appear to have scarlet roofs as the chillie crop is being dried spread out on the bamboo matting of which the roofs are made. The people say that snow never falls here, but that there is a great deal on the surrounding hills. There are roads to Pangma and Lagam, over the hills. We found a party of 50 Akas from Dzong village here who were collecting taxes. Their village was three days from here and five from Tezpur. Some of them spoke Assamese and they gave us some interesting information. No rain.

12th October, Dirang Dzong, 6 miles, 5,700 feet.—We went four and a half miles to the Sangti Chu which we reached after a steep descent. We crossed this by a bridge and then crossed the Dirang Chu and went down the right bank to Dirang Dzong consisting of about 80 houses and a *Gompa* of 100 monks. We were told that

the Dzongpön was at Tawang, but subsequently found out that this was a lie. He was afraid of the responsibility either of helping or of stopping us or having anything to do with us at all. The people made various excuses for not bringing us transport at once and later they asked to see our passport. We were obliged to go through the same lengthy explanations that we had given so often before. There were a few Lopas here who were probably Mijis, but they would not come and speak to us. No rain.

13th October, Nyukmadong, 12 miles, 8,100 feet.—We travelled five miles up stream to Lis village where we changed our coolies after a good deal of trouble and delay. On the road we passed a flat open place below Jepshing village and just beyond this a small hot sulphur pring. From Lis we went four miles to a bridge which leads to the left bank. The Akas who collect taxes in this valley are not allowed to travel up above this bridge. The people who live above it bring the taxes which they pay the Akas into Lis. From the bridge we climbed to Nyukmadong, a small village, the people though Mönbas, differ from those lower down the valley and seem to be more Tibetan. They all of them can speak Tibetan, while lower down only one or two people in each village could. The women here wear woollen clothes, while in the lower valleys, through which we have been travelling, they are all dressed in cotton or Assam silk. The people here were very suspicious of us and refused to give us any food or transport. They could not understand why we did not get a passport from the Dirang Dzongpön. We spent some hours arguing with them. The people here make tea of yellow-flowered plant (*Hypericum uralum*) which grows wild in the jungles. Another variety (*Hypericum patulum*) is used for the same purpose at Lunang in Kongbo on the Po me frontier. We were obliged to use this ourselves for several days. There are numbers of barking deer about here. Some rain in the evening.

14th October, Sengedzong, 4 miles, 9,900 feet.—This morning there were no signs of any transport for us, nor of any food. After a good deal of trouble they brought us some food and promised to take us to Sengedzong to-day. The road was steep down to a stream, the Saten Rong, out of which was a stiff climb of 2,000 feet. Sengedzong is a small village where we again had trouble in getting a house and where the people refused to give us food. Roads lead to Sakten in Bhutan and also to Mago. We saw the people using a very primitive plough here; the furrows were so crooked that a woman followed with a hoe to turn up the ground which the plough had left untilled. We have met several pilgrims lately who are going to a place called Tsam Jo Trung near Gauhati which was visited by the Dalai Lama when he was in India. A little rain in the early morning.

15th October, Jang, 16 miles, 8,000 feet.—We climbed five miles to the Se La, 13,940 feet in pouring rain and dense clouds. This pass appears to be always cloudy. When Nain Singh crossed over snow in February 1875, he states that his view was obstructed by clouds, and when we were at Kyala on the 9th instant the neighbourhood of this pass was the only part of the horizon that was cloudy. We found dwarf rhododendrons on the pass. We went 11 miles down the valley through jungle to Jang. We were rather doubtful as to how we should be received and were relieved when we were met by the head man and shown into a house; however, when we asked him to prepare transport for to-morrow and to bring us some food he and the villagers absolutely refused to do either, saying that two years ago they were punished for allowing a Chinese soldier to pass through who had no passport. This was the man about whose adventures we had heard at Tsari and Sanga Chöling. There were several huts on the road on both sides of the pass. Rain all day.

16th October, Tawang, 10½ miles, 10,200 feet.—As we could get no transport, I started with three of our own coolies to go to Tawang, leaving Captain Morshead and the rest of the party in Jang; the people refused even to give me a guide to show the road, and I was obliged to ask people whom I met on the way. I went down 800 feet to a large bridge over the Tawang Chu and climbed up the right bank; the road then went down stream about 1,000 feet above the water and past several villages. At one point I got a view of Tawang, a large *Gompa* of whitewashed houses enclosed by a wall, with the town below it, all built on a grassy spur, amid forest-clad hills. At Gyankar Shika I found two agents of the Tsöna Dzongpöns who were drinking *arak* together. One, a monk, was very drunk and consequently quite friendly and communicative. They said that they had heard all about us from Tsöna and immediately sent for villagers to carry my loads which had so

far been carried by our own coolies. The monk was a much-travelled man and had been in Calcutta and also to Russia as servant to Dorjief. We climbed from here to Tawang where I was met by the secretary or clerk to the Council and given a room in a house. I also had a passport sent back to Captain Morshead. This is a very thickly-populated valley, the villages all being large. There were some leeches on the road. The people in the town here are all Tibetans, though the monks of the *Gompa* are Mönbas. As a rule Mönbas do not care to live as high as 10,000 feet.

17th October, Tawang.—The Council met this morning to decide what was to be done with us and later I went up to the meeting. They were assembled in a square room in the middle of which was a single pillar at the base of which I sat on a cushion, while the Council, 19 in number, sat all round. One of the first questions I was asked was whether we had succeeded in making a good map of the southern frontier as they had heard that that was what we were doing. One of the Council had been the Dzongpön of Taklung, who knew a little Assamese. He had heard of "Miri Mission" which we believed to be the name of the officer in charge. One of the councillors had been in Peking during the Boxer rising when the Legations were being besieged. I was as usual asked for my passport, and spent a couple of hours explaining who we were and how it was that we had no passport. In the evening the head man came to say that as the Council had decided that I was up to no mischief he would bring me some food at once. Rain morning and evening with fine weather at midday.

18th October, Tawang.—Captain Morshead arrived about noon. We went together to interview the Council and as before sat in the centre of the room with the councillors all round. They told us that there was a good deal of snow on the direct road to Tsöna and that we should have to travel by a longer one; this suited our plans as the direct road had been mapped by Nain Singh. We were given a passport bearing 3 seals of the Monastic officials and a fourth of the Tsöna Dzongpöns. We were given a meal here which was served in the Council chamber. The monks then became more confidential; they told us that when they first heard of us they thought that we were Europeans in the pay of the Chinese, in which case they had intended to kill us. They were disappointed that one of us was not a doctor and asked us to come with a doctor if we ever returned to the country. There are about 550 monks in the *Gompa* but the number varies and a short time ago there were 700. They are all Mönbas with the exception of 2 or 3 Tibetans. The *Gompa* is situated on a grassy spur and on the west side overhangs very steeply the valley of Kangtong Rong. A fine day with no rain. The people said that they expected no more rain this year.

19th October, Lumla, 18 miles, 8,250 feet.—We had a long march with seven changes of transport. At Siru village 2 miles from Tawang the main road from Tawang to Dewangiri goes down to a bamboo suspension bridge over the Tawang Chu, from which it follows the left bank of the Tawang Chu to Trashigang in Bhutan. At dusk we reached Manam village where we found our fresh transport awaiting us with torches by the light of which we went 2 miles further to some bamboo huts near Lumla, which are built for the use of the Tsöna Dzongpöns who travel from Tawang to Tsöna by this road every April as the direct road *via* the Mila Katon pass is, at that time, under snow. Our road was over a succession of spurs and kept two or three thousand feet above the river. The hillsides in these valleys are well cultivated with the usual Himalayan crops, maize, marwa, etc. There were also well flavoured though barely ripe peaches and good pumpkins. There are a number of water-turned prayer wheels in good whitewashed houses all along the roadside. A fine day with no rain.

20th October, Shakti, 11½ miles, 7,250 feet.—We had a good view down the valley of the Tawang Chu this morning and were shown the frontiers of Bhutan. Our road left the Tawang valley and went up the Nyamjang valley. We had to change our coolies at several villages and were delayed each time. We passed some terraced rice cultivation at Gyipu. The hills were covered in forest. We stopped in a house in the village of Shakti. No rain.

21st October, Le, 19 miles, 8,350 feet.—We made a very late start as we were again had trouble with our local coolies. Two miles from Shakti we crossed to the right bank of the river and six miles further we came to a large *chorten* of a

peculiar design having a base of over 50 yards. A mile beyond this was Pangchen on the left bank above which the river has been dammed up by a landship and there are marshy flats; at other places the river flows in a very narrow valley with steep sides covered with forest. At Shoktsen where we changed transport we again had trouble with the coolies who threw our loads down and bolted into the jungle. The road is in places over galleries and causeways built up in from the river. We crossed the river 3 times by good wooden bridges. We arrived after dark, the villagers of Le coming out to meet us with torches of dried bamboo. We stopped in a house. No rain.

22nd October, Trimo, 10 miles, 10,700 feet.—We went up the valley all day crossing the river 3 times. After going $5\frac{1}{2}$ miles we suddenly came on Lepo *Tsukang* or custom house astride the road where we found an agent of the Tsöna Dzongpöns who took us in and gave us tea. He collects a tax in kind of 10 per cent. on all merchandise which goes up into Tibet from the lower lying Mönba country. He also collects 1 *tanka* on each animal and $\frac{1}{2}$ *tanka* on each man who passes his post. At Trimo we found the people, though still Mönbas, to be very Tibetan in their appearance; they grow crops of barley and turnips but maize and other Himalayan crops have been left behind. Their cattle are *dzos*. No rain.

23rd October, Tsöna 11 $\frac{1}{2}$ miles, 14,500 feet.—Our road left the Nyamjang valley and went 6 miles up a side valley to the Pö La (14,900 feet). There was a little fresh snow near the top of the pass. One of our servants shot a bharal, which was very welcome as we have not had money to buy meat. At the pass the country changed in appearance with great suddenness, the country to the north being typical bare Tibetan *Chang Tang*. From near the pass we had a good view of the country, but it was very difficult to follow the drainage system as the valleys were flat and open and it was hard to see which way the water flowed. We could see the position of the Chiu Tso and also of the Kyeshing La, a pass which Nain Singh called the Kyakya La, on which there was a great deal of snow. From the pass we descended $5\frac{1}{2}$ miles to Tsöna, a large town, at the time of our visit almost deserted as the trading season was over. During the last few days we met a number of traders on the road who had just left the trade mart. Here we found our servants who had been sent to Ata Ullah to get the money in exchange for the cheque; we now received 800 *tankas*, which equal about Rs. 200. Tsöna Dzong, which we saw from the road to-day, is a mile and a half down the valley. A little rain in the early morning.

24th October, Tsöna.—We halted to-day and spent a good deal of our money in clothes and blankets as the weather now at these altitudes is extremely cold. We paid an average price of 16 *tankas* or Rs. 4 for a *chuba* (Tibetan woollen coat) for our servants. Two of the Dzongpöns came to see us, one an old monk of Ganden and the other a youth of 22, the Tana Tungkor, who had fought against the Chinese in Lhasa. The latter spent some time with us looking at photographs. He gave us some interesting information about the Tibetan army. As a child he had been at Nangartse where his father was Dzongpön and said he was a great friend of the officer who commanded the post there when the expedition was in Lhasa. As these people all do, he contrasted the behaviour of our troops with those of the Chinese. No rain.

25th October, Gyisum, 16 miles, 15,500 feet.—We travelled $1\frac{1}{2}$ miles to Tsöna Dzong. There is not the usual fort here in which the officials live, but they live in houses in the village. Near the village are some hot springs. There are 4 Dzongpöns whom I visited; two are monks of Ganden Gompa near Lhasa and two are laymen. One of the Ganden monks remembered me at Lhasa. He had been in the suite of the Ti Rimpoche and had seen me one day when I went to lunch with him. The Ti Rimpoche was, he said, in good health and 79 years of age now. With one of the lay Dzongpöns we found the Shio Tungkor who had been our host on the 30th September. After we left them the young Tana Tungkor, one of the lay Dzongpöns, invited me to go to his quarters, where I remained some time talking about the state of the country and more especially about the army, about which he had very progressive ideas. He told me that he was going to Calcutta this winter to learn Japanese and English and thought that he would be able to master these two languages before the hot weather came on. From information from other sources I gathered that he is going on some secret business of the Tibetan

Government. He gave me tea with which we eat Huntley and Palmer's biscuits. From here I went up to the small Doka La (15,500 feet) on which about three inches of snow was lying. From the pass we had a good view of the snow range to the west, which separates this plateau from the upper Nyamjang valley. We also saw a lake, the Nyapa Tso. We descended from the pass and at the village of Tre turned up an open valley which we followed to the small village of Gyisum. Crops do not ripen here. We saw a good deal of game on the road,—bharal, gazelle and *ovis ammon*. The stream in this valley is said to join the Tawang Chu near Jang. A little snow fell on the Doka La.

26th October, Lapshi, 12½ miles, 13,500 feet.—We went up the bare open valley 4 miles to the Nyala La (16,990 feet). There was a great deal of game on the pass—gazelle, kyang and *ovis ammon*; two of the latter were shot by Captain Morshead. Three miles from the pass we reached Loro tö village, and 5½ miles further Lapshi. As Captain Morshead wished to go after the *ovis ammon* again he remained in Loro tö. No rain.

27th October, Lapshi.—I remained here to-day. There are a few poplars and willow trees here. A fine day.

28th October, Minda, 10½ miles, 13,700 feet.—I went down 4 miles to Jora Shika; some large houses and a *Gompa* of 80 monks on the hills above the right bank of the river. From here there are two roads to Lhöntse Dzong, one *viâ* the Gyandro La and one *viâ* the Lagor La. I left a note for Captain Morshead telling him to take the Gyandro La road as I was going *viâ* the Lagor La. I found a monk of Tengyeling, one of the Lhasa *Gompas* in charge at Jora who was just handing over charge to two Dzongpöns, as all the Tengyeling estates have been confiscated on account of the *Gompa* having sided with the Chinese in the recent troubles. He asked me whether I thought anyone would keep him if he went to Darjeeling as there was nowhere in Tibet where he could live, all the Tengyeling monks having been expelled from the monasteries. He said that he could not possibly do any coolie work, but seemed to think that it was only a matter of time before the Chinese returned, and he and his friends were restored to favour. At Jora we left the valley of the Loro Karpo and went up into the hills to the north to the village of Minda which is an estate of Samdru Potrang, the Lhasa family which owns the Mago valley. Here we found an obliging old man who was the agent of the family; the Kishung Depa, whom we met on 30th September was his adopted son. A fine day.

29th October, Lhöntse Dzong, 7 miles, 13,100 feet.—We climbed 3,000 feet in 3 miles to the Lagor La (16,800 feet). From the pass I had a fine view of bare rolling hills; about 50 miles off to the north-west was the Yala Shampo range, while closer was the valley of the Nye in which I could see Trakor *Gompa*. To the south I could see some peaks of the Gori Chen range about 40 miles off. We descended 3,700 feet in 4 miles to Lhöntse Dzong, a fine stone building on a rock, below which is a thick wood of a thorny tree called "La" in Tibetan. Lhöntse Dzong is also called Dzong Shö by people living in the neighbourhood. We put up in a house in the village. Immediately on arrival I rode some 10 miles down the valley to try and join up the survey with the lower part of the valley at Nyerong where we had been on the 24th September, and went down far enough to see the snows near the Le La. Captain Morshead arrived in the evening. Opposite Lhöntse is a valley down which a road comes over the hills from Yakshi in the Char tö valley. A fine day with no rain.

30th October, Sömbü do, 15½ miles, 14,100 feet.—Before leaving Lhöntse we went to see the Dzongpön's agent who we found was one of the servants who was living in his kitchen, but who had been entrusted with the seals. We travelled up the open valley over fields and among bare hills. I left the main road and crossing the valley went up a side valley to a point where it divided and from where I saw the villages of Shobo Shar and Shobo Nub, places about which we had heard a good deal as important roads to Tsetang and Char tö pass through them. I rejoined the main Nye valley and went up to Ritang the point where the Nye branches. The north-western branch is called Sikung and the south-western Sömpü. It was *viâ* the Sikung valley that Nain Singh went from Tsetang to Tawang in 1874, and for some distance up the Sömpü valley we were on his route. Up this valley

we reached Sömpü Shika, an estate of the Shatra Lönchen, $2\frac{1}{2}$ miles further we came to the small village of Sömpü do where we put up in a house. A little barley is the only crop grown here. Some snow fell in the evening.

31st October, Gyao, 9 miles, 15,000 feet.—We went up to the valley passing the hot springs of Serasa near which was Trashigang, $2\frac{1}{2}$ miles from Sömpü do, the last house in the valley. As far as this we had followed the road previously followed by Nain Singh; here his road branched off to Tsöna. We continued up the valley for $1\frac{1}{2}$ miles when the road bent sharply to the left and 7 miles further we reached Moru, a yak herd's camp. Near here were many shepherds' encampments round which were the ashes of sheep dung fires which are burnt in a circle every night to scare the wolves which are troublesome here. At Moru we found a caravan of 60 yaks loaded with salt which had been brought from Talung on the Yamdrok Tso and which was being taken to Tsöna for the Dre Drukpa, the official in charge of the Government rice monopoly. The main summer road from Tsetang to Tsöna passes through Moru, coming direct from the Karkang La; Nain Singh took a longer road *viâ* Ritang as he travelled in winter, when the caravans cannot find grazing on the shorter road. There are a number of hot springs in the valley near here. A climb of 3 miles from Moru brought us to the Hor La (17,680 feet). It was intensely cold on the pass and snow was falling. On the road we caught a glimpse of the Nera Yu Tso a lake, which was 1 mile south of our road. We went steeply down the valley of the Nyamjang Chu which we had left at Trimo on the 23rd October and reached Gyao village after dark. From here roads lead to Trigu Dzong and Lhakang Dzong.

1st November, Nyelung, 12½ miles, 13,900 feet.—Before starting we visited the small *Gompa* at Gyao in which we found a fine library of about 1,100 volumes. There are only 4 monks, but the place must have been more important years ago. Our road lay down the valley all day through bare hills, below which in the bottom of the valley thorny scrub grew. This small village is the property of Ragasha, a Lhasa family. There are snows on both the east and west sides of this valley; several roads lead westwards to Lhakang Dzong. We had some trouble with the people here who would not let us occupy a house. Some snow in the early morning.

2nd November, Gor, 9 miles, 13,750 feet.—We went $4\frac{1}{2}$ miles down the valley to Dongkar Dzong a large village inside a roughly circular wall on a flat above the right bank of the river. There is also a *Gompa* of 50 monks. In order to avoid going over the same ground twice we had intended going from here over two passes, the Cho La and the Me La into the valley of the Durang or Trashy Yangsi Chu in Bhutan. The Dzongpön tried to dissuade us on account of the snow on the passes and eventually settled the matter by saying that the Tibetan transport could not be taken into Bhutan and that we should have to wait on the frontier and send to the first Bhutanese village two days distant for transport, so we decided to continue our journey down the Nyamjang valley. This part of the valley is still in the dry zone though we can see fir trees a little way down stream. A fine day.

3rd November, Rang, 13 miles, 11,300 feet.—After going $1\frac{1}{2}$ miles down the valley we dropped steeply 1,500 feet to the river passing a small *Gompa* perched on a pinnacle of rock, the first house with a pent roof which we have seen since leaving Trimo. The river here enters a gorge with snow peaks on either side; here also the forest begins. We went down a bad road, 8 miles when we arrived opposite Ngang valley on the left bank. One of the houses of Ngang is under the Dongkar Dzongpöm and one under the official of Lepo *Tsukang*. We reached Rang after a steep descent of 900 feet. There are twelve houses of stone with pent roofs. The climate is cold and damp and the people say that barley will not grow on account of the damp while it is too high for maize and other crops. They can only grow buckwheat and turnips and also keep yaks. Barley grows at Gor and Dongkar higher up the valley. Sir Joseph Hooker in *Himalayan Journals*, Volume II, page 74, states that barley requires a mean summer temperature of 48° to come to maturity. Prickly oak grows here a tree which does not thrive in a very wet climate. The people say that they are Tibetans and not Mönbas though they do not wear their hair in a queue and they speak Mönba among themselves. The village pays a tax of 40 tankas (Rs. 10) a year to Dongkar Dzong. A little snow was lying in places on the road and some fell to-day.

4th November, Le, 17 miles, 8,350 feet.—We went $4\frac{1}{2}$ miles down the valley through fir and rhododendron forest to Trimo where we had spent the night of the 22nd October. We passed the Lu nga valley up which a road leads to Tsöna.

On reaching the village we found the Lepo *Tsukang* official who had entertained us on our journey up the valley and who was now returning from Tsöna; he helped to get us our transport and wrote a "*dayig*", or order for us to all the villages in the valley to be ready for us but would not seal it and insisted on our doing so. Somewhere near here on the west side of the valley is a holy mountain called Simurong which is a place of pilgrimage. A fine day.

5th November, Nyamangpo, 15 miles, 5,500 feet.—We started early and went down our road of 21st but found a better and shorter road in the valley which avoided the 1,200 feet rise to Shoktsen. At Pangchen we could not get transport coolies and were delayed there from noon till 5 P.M. As there was to be a moon we pushed on in spite of the lateness of the hour, and camped in some fields when the moon set about 8 P.M. We passed several loads of oranges which were being taken to Tsöna. A fine day.

6th November, Sanglung, 17½ miles, 4,550 feet.—We continued down the road we had previously followed, as far as Yashar. We had to change coolies several times and were very little delayed, but could not get ponies to ride. At Shakti on our road up we had given a small child some medicine and as she had got well we were besieged by all the sick in the village. From Yashar we went down through Pomong and Karteng villages to a bamboo suspension bridge over the river. The bridge was of the usual type, but had several layers of bamboo matting on the floor over which grass and litter had been placed so that ponies could cross. After crossing the bridge we climbed to Sanglung, a large village. We passed several parties of traders and pilgrims who were going to India, but they intended staying 2 months in Bhutan as the weather is at present too warm for them in the plains. We found oranges, plantains and rice growing here. A fine day.

7th November, Manam, 8½ miles, 4,700 feet.—We climbed 1,200 feet in 2½ miles to Tongmaring and a further 500 to Beting, 2 miles beyond which we reached a small dry watercourse which was pointed out to us on the frontier of Bhutan. From Beting we were shown Pongleng the last Mönba village and Dukti the first Bhutanese village on the left bank. A mile beyond the frontier we reached Changpu, the first Bhutanese village. Here we found two servants of the Naksang Dzongpön who had been sent to help us; we also found one of our coolies whom we had sent on to Trashigang to warn the official of our approach and who had been turned back as the bridge over the Durang or Trashy Yangsi Chu had been burnt. This was they say done by a trader, as the bridge was dangerous and the people refused to repair it. The people received us very well and gave us *chang* and a meal of rice. From here we left the main road to avoid the broken bridge, and descended 2,000 feet steeply to this village. A storm of rain in the evening.

8th November, Ramjar, 10 miles, 5,300 feet.—We made a late start and went down 1,100 feet to the river level, and after going down the right bank we crossed by a bamboo suspension bridge. In the valley were trees on which twigs covered with the lac insect had been hung; cotton was also growing here. From near the bridge a road goes to Salen in the Gamri Chu up the Rolam Chu and over the Wangsing La. We went down the left bank through rice fields finally rising 1,500 feet in 1 mile, and 500 less steeply in another mile to Yarlang village where we found everything ready for us, fresh transport coolies, *chang*, and incense burning. We went 2 miles further up to Ramjar, where we were obliged to stop as we could not get coolies. We found a small official with the title of *Trumba* here who was 72 years of age, and who had been a servant of the Maharaja's father and had been given this post in his old age. He described fights against our troops years ago in which he had taken part. A fine day.

9th November, Trashigang, 9½ miles, 3,250 feet.—From Ramjar we rose 1,000 feet to a spur from which point a road led to Salen and Sakten. From here the road was good dropping 1,000 feet through oak trees to some *Chortens* from which we had a very steep drop of 3,200 feet to a bridge over the Gamri Chu which flows from Mira and Sakten. We then went up a good road until just below Trashigang Dzong. The last 600 feet was very steep but on the way we were met by 2 ponies having gorgeous harness and saddle cloths on which we rode into the Dzong, a large and well-constructed building which was damaged by an earthquake, 17 years before our visit but which has been repaired. There are about 30 monks in the *Gompa* which is in the same building. We were met by the Dzongpön, who took us to his room, from the window of which we saw a devil dance which happened to be going on. We were very well received here and the Dzongpön

pressed us to stay several days but we were obliged to refuse. There is a very fine iron chain suspension bridge over the river below the Dzong but we were not able to go down to see it. It is described by Mr. Claude White in "Sikkim and Bhutan," page 191. A fine day.

10th November, Jiri bridge, 16 miles, 4,400 feet.—The Dzongpön came some way with us and had provided 2 ponies for each of us to ride; he also sent some of his servants to help us on the road. At Dongkar village where we changed transport we were delayed as the entire population had gone to see the devil dance at Trashigang. The road up to the Yönpu La (8,250 feet) was through rhododendron and oak while near the top of the pass there was a good deal of open bracken-covered hillside. The pass was about $10\frac{1}{2}$ miles from Trashigang and from it we had an extensive view and could see some snow peaks of the Gori Chen group and the snow range between Tsöna and the Nyamjang valley; further west were the peaks above Nyelung where we had stopped on 1st November, while still further to the west was a high snow peak in Bhutan. Across the pass thick forest again made its appearance through which we descended 3,900 feet to a bridge over the Jiri Chu. The more direct road to Dewangiri takes off $2\frac{1}{2}$ miles before reaching this bridge, but it is difficult to obtain transport on the direct road. Several huts are passed on the road. A fine day.

11th November, Pangkar, 20 miles, 6,000 feet.—From our bivouac at the bridge we climbed 2,400 feet in forest to the Mentong La (6,800 feet); we went down from the pass, in places very steeply, descending, 3,900 feet to the Temri Chu which we crossed by a bridge near which was Wagam Rong village where the small official, another old retainer of the Maharaja's, had prepared a meal for us by the road side. From here we sent back the Trashigang Dzongpön's servants and ponies. We went down the left bank of the Temri Chu crossing several tributaries and passing farm houses, surrounded by plantain and orange trees. At one tributary, the Tsalari Chu, they tried to persuade us to stop, saying that we should not find water before dark; as there was to be a moon we pushed on and climbed 2,500 feet, gradually leaving the Temri Chu. The road was then more level, and after a final climb of 1,500 feet we reached a small pool in the forest, where we slept. A fine day.

12th November, Tungshing, 13 miles, 4,250 feet.—We went about 2 miles to Keri Gompa, where we found nothing ready for us as our passport which had been sent ahead had gone by another road and we were detained from 7 A. M. to 4 P. M. before they could collect coolies for us. From Keri we went 6 miles to the Rimpa La, the watershed between the Tawang Chu and the streams flowing to the plains of India. We now descended more steeply and wished to stop, but could find no water until at 9.30 P. M. we came on a camp of Bhutanese, who told us where we should find water though it proved to be a very long way down the hill. We marched by moonlight. A fine day.

13th November, Yando, 12 miles, 1,250 feet.—In the morning as we started we saw the plains of Assam for the first time since our view from Kyala on the 8th October. We went down $2\frac{1}{2}$ miles to a stream, which we then followed, being obliged to ford in several times to avoid cliffs. At length we reached a point where the valley, up which Orong village is situated, joined our stream on the left bank; here we had to wait 5 hours for fresh transport. We then continued $2\frac{1}{2}$ miles down the valley when we left it and climbed 900 feet up the hill above the left bank when we reached the top of the spur dividing the stream from the next valley. Somewhere on this spur is Dewangiri called by the Bhutanese and Tibetans Dungsam. It was dark and we did not see the village. We descended from the spur 2 miles to the first water, where we bivouacked.

14th November, Rangiya, Railway Station, 32½ miles.—We started early and soon came on the made road; after a couple of miles however this disappeared, having been washed away by the rain and we found ourselves going down the rocky bed of a river which we had to ford 32 times. On the way we met the coolies who were re-making this road, the first Indians we had seen. At a place called by Bhutanese Gudam we found some grass huts and the base of supplies for the working parties, where with the aid of two Bengali contractors we got some Indian coolies and marched down the road. The 26th milestone for Rangiya was at this camp. At Tambalpur we got 3 buffalo carts, on which we travelled at night, reaching the railway station at 2.30 A. M., after a journey of 1,683 miles from Mipi in the Dibang valley.

Itinerary.

Date.	Place.	Distance in miles.	Total distance.	Height in feet.	REMARKS.
1913.	.. Mipi .. ..	..	..	4,800	
16th May	.. Basam	10	10	5,600	Camp in jungle.
17th "	.. Camp	6½	16½	6,500	Camp in jungle.
18th "	.. .. ..	..	..	..
19th "	.. Abgya Pukpa	6½	23	7,400	Camp in jungle.
20th "	.. Shakang	5½	28½	8,150	Camp in jungle.
21st "	.. Sumdo..	7	35½	9,150	Camp in jungle.
22nd "	.. .. ..	..	..	..
23rd "	.. .. ..	..	..	..
24th "	.. Yongyap Latsa, south ..	12	47½	10,600	Camp in jungle.
25th "	.. .. ..	..	..	..
26th "	.. Yongyap Latsa, north ..	10	57½	11,300	Camp in jungle. Crossed the Yongyap La, 13,020 feet.
27th "	.. .. ..	..	..	..
28th "	.. Yongyap Da	8½	66	10,590	Camp in jungle.
29th "	.. Damle	9	75	12,000	Camp in jungle.
30th "	.. Gyayö Pukpa	8	83	11,100	Camp in jungle. Crossed the Pungpung La, 14,300 feet.
31st "	.. Chimdro	13½	96½	6,450	Village.
1st June	.. .. ..	..	..	..
2nd "	.. .. ..	..	..	..
3rd "	.. Nyapa	4½	101	5,700	Village.
4th "	.. Domgyur Pukpa	8	109	5,650	Cave.
5th "	.. Kapu	12½	121½	4,800	Village.
6th "	.. Giling	4½	126	3,150	Village.
7th "	.. Makti	6½	132½	3,550	Village.
8th "	.. Meto	12	144½	4,000	Village.
9th "	.. Rinchenpung	4	148½	6,700	Village.
10th "	.. .. ..	..	..	..
11th "	.. .. ..	..	..	..
12th "	.. Moto	4	152½	4,000	Village.
13th "	.. Bungmo	7	159½	3,950	Village.
14th "	.. Meri	7	166½	2,950	Village.
15th "	.. Kapu	9	175½	4,800	Village.
16th "	.. Druk	8	183½	4,950	Village.

Itinerary—contd.

Date.	Place.	Distance in miles.	Total distance.	Height in feet.	REMARKS.
1913.					
17th June	Pangshing	14½	198	3,950	Village.
18th "	Tsangrang	8½	206½	4,550	Village.
19th "	Lagung	11½	218	6,050	Village.
20th "	"	"	"	"	"
21st "	Domkar	6	224	6,850	Resthouse.
22nd "	Sü Latsa, south	7	231	9,700	Camp.
23rd "	Sü Latsa, north	5½	236½	11,150	Camp. Crossed the Sü La, 13,445 feet.
24th "	Drosam	3½	240	10,450	Resthouse.
25th "	Showa	8½	248½	8,520	Capital of Po me.
26th "	"	"	"	"	"
27th "	"	"	"	"	"
28th "	Petang	7½	256	8,000	Village.
29th "	Dem	10½	266½	7,850	Village.
30th "	Tang tö	11½	278	7,150	Village.
1st July	Gyndzong	11½	289½	7,250	Village.
2nd "	Dre	5	294½	7,300	Village. Crossed Yigrong Tso in ferry.
3rd "	"	"	"	"	"
4th "	Sangyü	8	302½	7,250	Camp below village.
5th "	Chuluk	9½	312	6,850	Camp.
6th "	Trulung	10½	322½	6,450	Camp.
7th "	Chema Chembo	8	330½	7,250	Camp.
8th "	Tongkyuk bridge	13½	344	8,340	Camp.
9th "	"	"	"	"	"
10th "	Lunang	16½	360½	11,050	Village. Crossed frontier from Po me into Kongbo.
11th "	Tumbatse	6	366½	11,650	Village.
12th "	Timpa	15½	382	9,750	Village on bank of Tsangpo. Crossed Nyima La, 15,240 feet.
13th "	Shoka	4	386	9,800	Crossed Tsangpo in ferry boat.
14th "	"	"	"	"	"
15th "	Tri pe	10½	396½	10,000	Village.
16th "	"	"	"	"	"
17th "	Gyalo	11½	408	9,300	Village.
18th "	Kumang	5½	413½	10,350	Hut.
19th "	Nyuksang	8	421½	8,830	Camp.
20th "	Songedzong	7½	429	8,550	Camp.

Itinerary—contd.

Date.	Place.	Distance in miles.	Total distance.	Height in feet.	REMARKS.
1913					
21st July	Pemaköchung	8	437	8,800	Village.
22nd "	"	"	"	"	
23rd "	Sanglung Glacier Camp	4	441	8,950	Camp.
24th "	"	"	"	"	
25th "	Camp 8,400	6	447	8,400	Camp.
26th "	Camp 11,050	3	450	11,050	Camp.
27th "	"	"	"	"	
28th "	Churung Chu	8	488	?	Bivouac.
29th "	"	"	"	"	
30th "	Camp	3	461	?	Bivouac.
31st "	Camp	12	473	?	Bivouac.
1st August	Songedzong	11	484	8,550	Bivouac.
2nd "	Kumang	15½	499½	10,350	Hut.
3rd "	Gyala Gompa	6½	506	9,300	Village. Crossed Tsangpo by rope bridge.
4th "	Tamling	13	519	10,000	Village.
5th "	Mönlam	14	533	9,700	Village.
6th "	Dzong	18	551	9,500	Village.
7th "	Tsela Dzong	12	563	9,700	Village. Headquarters and Dzongpön.
8th "	"	"	"	"	
9th "	Dowoka	8½	571½	9,600	Village.
10th "	Lutö	15	586½	9,550	Village.
11th "	Kangsar	15	601½	9,850	Village.
12th "	Tü	7½	609	9,950	Village.
13th "	Gacha	10½	619½	10,200	Village. Crossed Tsangpo by ferry boat.
14th "	Tro me	12	631½	10,050	Camp opposite village.
15th "	Kamechang	13	644½	10,150	Village.
16th "	Shu	10	654½	10,400	Village.
17th "	Nge	11	665½	10,600	Village.
18th "	Lu	14½	680	10,700	Village. Crossed Kongbo Nga La 14,570 feet. Passed Nang Dzong. Crossed Tsangpo to left bank by ferry.
19th "	"	"	"	"	
20th "	Lhenga	10	690	10,600	Village.
21st "	Rapdang	7½	697½	10,800	Village.
22nd "	Lenda	12	709½	11,000	Village.

Itinerary—contd.

Date.	Place.	Distance in miles.	Total distance.	Height in feet.	REMARKS.
1913.					
23rd August	Lhapsö	13½	723	11,650	Village.
24th "	Traso	10½	733½	15,900	Resthouse.
25th "	Lhagyari	13	746½	13,100	Large village. Cross Putrang La, 16,470 feet.
26th "	Kongbo	6	752½	14,100	Village. Crossed Kampa La, 14,300 feet.
27th "	Trap	9½	762	12,100	Village. Crossed Nyerma La, 15,600 feet.
28th "	Rongchakar	16	778	12,050	Village.
29th "	Tsetang	14	792	11,850	Town.
30th "					
31st "	Halakang	9½	801½	12,400	Village.
1st September	Ramonang	12½	814	13,850	Village.
2nd "	Chumda Kyang	13	827	14,650	Village. Crossed Yartö Tra La, 16,700 feet.
3rd "	Tratsang	10	837	15,000	Village.
4th "	Kyekye	12	849	14,600	Village. Crossed Pu La, 15,190 feet.
5th "	Tengechung	16	865	14,000	Village.
6th "	Shirap	10½	875½	14,000	Village.
7th "	Bung	15	890½	12,000	Village.
8th "	Karpo	13	903½	12,100	Village.
9th "	Kambado Drok	7½	911	15,700	Camp
10th "	Pumkar	9	920	13,200	Village.
11th "	Trupchuka	14	934	14,550	Village.
12th "	Chösam	17½	951½	14,300	Village. Crossed Kongmo La, 17,520 feet.
13th "	Chikchar	15	966½	12,700	Village.
14th "					
15th "	Migyitün	12	978½	9,030	Village.
16th "	Chikchar	12	990½	12,700	Village.
17th "	Mipa	11	1,001½	15,300	Resthouse. Crossed Drölma La, 16,100 feet.
18th "	Potrang	14	1,015½	14,700	Resthouse. Crossed Shagam La, 16,100 feet.
19th "	Tomsang	15½	1,031	12,600	Resthouse. Crossed Shangu La, 15,500 feet.
20th "	Yü tö	15	1,046	13,200	Village. Crossed Karkyu La, 15,000 feet.
21st "	Songa Chöling	18	1,064	10,900	Large Gumpa. Crossed Tak La, 16,700 feet.
22nd "	Char mo	10½	1,074½	10,900	Village.

Itinerary—contd.

Date.	Place.	Distance in miles.	Total dis- tance.	Height in feet.	REMARKS.
1913.					
23rd September ..	Kyimpu	7	1,081½	13,400	Village.
24th " ..	Nyerong	16	1,097½	12,500	Village. Crossed Le La, 17,180 feet.
25th " ..	Kap	12½	1,110	11,400	Village.
26th " ..	Drötang	18	1,128	11,200	Village.
27th " ..	Trön Trip	6	1,134	10,700	Village.
28th " ..	Chayul Dzong	17	1,151	11,450	Village.
29th " ..	Tro Shika	18½	1,169½	12,350	Village.
30th " ..	Shio Shika	8½	1,178	13,200	Village.
1st October ..	Cha	11½	1,189½	14,300	Village.
2nd " ..	Seti	12	1,201½	16,000	Camp. Crossed Pen La, 17,330 feet.
3rd " ..	Goshu Shö	11	1,212½	14,500	Camp. Crossed Tulang La, 17,250 feet.
4th " ..	Mago	11	1,223½	11,800	Village.
5th " ..	.. ..	..	..	..	..
6th " ..	Lap	12	1,235½	14,700	Village.
7th " ..	Samjung	9½	1,245	12,850	Hut.
8th " ..	Kyala	8	1,253	12,500	Hut.
9th " ..	Lagam	10	1,263	9,200	Village.
10th " ..	Tembang	9	1,272	7,600	Village.
11th " ..	Namshu	7	1,279	6,400	Village.
12th " ..	Dirang Dzong	6	1,285	5,700	Village.
13th " ..	Nyukmadong	12	1,297	8,100	Village.
14th " ..	Sengedzong	4	1,301	9,900	Village.
15th " ..	Jang	16	1,317	8,000	Village.
16th " ..	Tawang	10½	1,327½	10,200	Large village and Gompa.
17th " ..	.. ..	..	..	..	..
18th " ..	.. ..	..	..	..	..
19th " ..	Lumla	18	1,345½	8,250	Village.
20th " ..	Shakti	11½	1,357	7,250	Village.
21st " ..	Le	19	1,376	8,350	Village.
22nd " ..	Trimo	10	1,386	10,700	Village.
23rd " ..	Tsöna	11½	1,397½	14,500	Town.
24th " ..	.. ..	..	..	..	..
25th " ..	Gyisum	16	1,413½	15,500	Village.
29th 1 " ..	Lapshi	12½	1,426	13,500	Village. Crossed Nyala La, 16,990 feet.
27th " ..	.. ..	..	..	..	..

Itinerary—concl'd.

Date.	Place.	Distance in miles.	Total dis- tance.	Height in feet.	REMARKS.
1913.					
28th October ..	Minda	10½	1,436½	13,700	Village.
29th ,, ..	Lhöntse Dzong	7	1,443½	13,100	Village. Crossed Lagor La, 16,800 feet.
30th ,, ..	Sömbü Shika	15½	1,459	14,100	Village.
31st ,, ..	Gyao	19	1,478	15,000	Village. Crossed Hor La, 17,680 feet.
1st November ..	Nyelung	12½	1,490½	13,900	Village.
2nd ,, ..	Gor	9	1,499½	13,750	Village.
3rd ,, ..	Rang	13	1,512½	11,300	Village.
4th ,, ..	Le	17	1,529½	8,350	Village.
5th ,, ..	Nyamangpo	15	1,544½	5,500	Bivouac.
6th ,, ..	Sanglung	17½	1,562	4,550	Village.
7th ,, ..	Manam	8½	1,570½	4,700	Village. Crossed frontier in- to Bhutan.
8th ,, ..	Ramjar	10	1,580½	5,300	Village.
9th ,, ..	Trashigang Dzong	9½	1,590	3,250	Village.
10th ,, ..	Jiri bridge	16	1,606	4,400	Bivouac.
11th ,, ..	Pangkar	20	1,626	6,000	Bivouac.
12th ,, ..	Tungshing	13	1,639	4,250	Bivouac.
13th ,, ..	Yando	12	1,651	1,250	Bivouac.
14th ,, ..	Rangiya	32	1,683	..	Station, E. B. S. Railway.

APPENDIX II.
MILITARY ROUTE REPORTS.
LIST OF ROUTES.

No.	From	To	REMARKS.
1	Mipi	Kapo	14 stages, 121½ miles, <i>vid</i> Chindro.
2	Mipi	Tambu	12 stages, <i>vid</i> Andra valley
3	Andra Latsa	Yongyap Da	2 stages, <i>vid</i> Andra La.
4	Chindro	Rima	<i>Vid</i> Kangri Karpo La.
5	Chindro	Dashing	4 stages, <i>vid</i> Chindro La.
6	Chindro	Sumdzong	5 or 6 stages <i>vid</i> Dong Chu La.
7	Kapo	Mikön	3 stages, 25 miles, down the Tsangpo.
8	Kapo	Pe	24 stages, 208½ miles, <i>vid</i> Showa.
9	Charasa	Trulung	7 stages up the Tsangpo and Po Tsangpo.
10	Shiuden Gompa	Showa	10 stages, down the Po Tsangpo.
11	Shuiden Gompa	Sumdzong	5 stages.
12	Showa	Shobando	5 stages through Po tö.
13	Dre	Alado	10 stages up the Yigrong Tsangpo.
14	Tongkyuk Dzong	Gyamda	6 stages.
15	Pe	Payü	11 stages down the Tsangpo.
16	Gyala	Tsetang	24 stages, 270 miles, up the Tsangpo.
17	Gyala Gompa	Lunang	2 stages, <i>vid</i> the Tra La.
18	Tru be	Lunang	2 stages, <i>vid</i> the Targ La.
19	Tsela Dzong	Gyamda	6 stages up the Gyamda Chu.
20	Lilung	Kyimdong	4 stages.
21	Lilung	Kyimdong	5 stages.
22	Langong	Halung (Pachakshiri)	4 stages.
23	Tro me	Ö Se Kyang	8 stages.
24	Tro me	Ba	3 stages.
25	Shu	Chikohar (Tsari)	4 stages, <i>vid</i> Birbi La.
26	Nang Dzong	Chösam (Tsari)	2 stages, <i>vid</i> Sur La.
27	Tromda	Dem	1 stage up the Trulung valley.
28	Rapdang	Kyekye	3 stages.
29	Lhenga	Gyamda	7 stages.
30	Lhenga	Öka Dzong	5 stages.
31	Nyengo ferry	Metro Kongkar	3 stages.
32	Lhagyari	Rongchakar	3 stages, 31½ miles, <i>vid</i> Trap on the Tsangpo.
33	Tsetang	Migyitün	12 stages, 138 miles, <i>vid</i> Tsari.
34	Tsetang	Trigu Dzong	3 stages, <i>vid</i> Chongye.
35	Halakang	Lhagyari	2 stages, <i>vid</i> Trakar La.
36	Kyekye	Lung	6 stages, 75½ miles, down Char valley.

No.	From	To	REMARKS.
37	Chorten Namu (Tsari) ..	Sanga Chöling ..	2 stages, 17 miles, <i>vid</i> Cha La.
38	Yakshi	Lhöntse Dzong ..	2 stages, <i>vid</i> Se La and Nyanga La.
39	Shirap	Karpo	2 stages, <i>vid</i> Traken La.
40	Shö Shika	Kyekye	2 stages, <i>vid</i> Kalung La.
41	Bung	Kyekye	3 stages, about 40 miles, <i>vid</i> Karpo.
42	Karpo	Dem	3 stages, 22½ miles, <i>vid</i> Kamba La.
43	Bung	Lhöntse Dzong ..	2 stages, <i>vid</i> Mo La.
44	Chikchar (Tsari) ..	Sanga Chöling ..	5 stages, 73½ miles. Tsari pilgrims' road.
45	Char me	Komlha	3 stages, 31 miles, <i>vid</i> Le La.
46	Kap	Dafra country ..	5 stages, <i>vid</i> Lha La.
47	Tsöna	Lung	8 stages, 90 miles, <i>vid</i> Nyala La and Chayul valley.
48	Takpa	Lhöntse Dzong ..	2 stages, <i>vid</i> Gyala Lamo La.
49	Nyerong	Trimo	8 stages, 91½ miles, <i>vid</i> Nye valley, Hor La and Dongkar Dzong.
50	Tsöna	Ramonang	5 stages.
51	Jora Shika	Lhöngtse Dzong ..	1 stage, 18 miles, <i>vid</i> Lagor La.
52	Jora Shika	Lhöntse Dzong ..	1 stage, 13½ miles, <i>vid</i> Gyandro La.
53	Lhönte Dzong ..	Charap	2 stages, <i>vid</i> Shobo Shar.
54	Gyao	Trigu Dzong	2 stages, <i>vid</i> Chilung La.
55	Gyao	Lhakang Dzong ..	4 stages, <i>vid</i> Karu La.
56	Lingchen	Pemba	3 stages.
57	Nyelung	Pemba	2 stages, <i>vid</i> Dochung La.
58	Trashi Tongme ..	Dirang Dzong ..	13 stages, 113½ miles, <i>vid</i> Mago.
59	Mago	Jang	3 stages.
60	Dirang Dzong ..	Rangiya Railway Station, E. B. S. Railway.	16 stages, 190 miles, <i>vid</i> Tawang. Trashigang in Bhutan and Dewangiri.
61	Nyukmadong ..	Sakten in Bhutan ..	2 stages.
62	Beting	Trashigang	2 stages, 24 miles.
63	Lumla	Tsöna	5 stages, 52½ miles, <i>vid</i> Nyamjang valley and Pö La.
64	Dongkar Dzong ..	Trashigang Dzong ..	10 stages <i>vid</i> Cho La and Me La.

Route No. 1.

MIPI (4,800') TO KAPO.

121½ miles.

14 stages.

Epitome.—The road is through forest the whole way except on the passes and near Mipi and Chindro. It is impassable for loaded animals though unloaded animals can be taken with difficulty, diversions having to be made round ladders and difficult places; there is a riding road in the Chindro valley as far as Nyapa (stage 12). The road goes north-west up the Yongyap Chu to the Yongyap La, after crossing which it goes down a stream, also called the Yongyap Chu, but which further down is known as the Shūmo. At Yongyap Da (stage 8) the road goes north-east up a tributary to the Pungpung La, after which it goes down a tributary of the Chindro Chu to Chindro, the only habitation on the road; it follows the Chindro Chu to near its junction with the Tsangpo. Camping grounds are small, usually for about 2 companies. There are no possible camping grounds except where noted (*C. G.*). Water and fuel are plentiful at every stage. Leeches are troublesome the 2nd and 3rd stages in summer. Before reaching Chindro the road is very little used and streams are crossed by trees being felled across. The two passes are clear of snow in July, August and September and passable a month earlier and later. If the road is attempted too early or late in the year there is danger of being cut off on the road between the passes where no supplies of any kind can be obtained. Travellers cut off in this way have been able to follow the river down to its junction with the Tsangpo, but there is no road and no food is obtainable, and the journey has required 10 days, during which some of the party died.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	BASAM (5,600')	10	10	Road along open hillside crossing several nullahs to Tshahuden (<i>C. G.</i>) 1½ miles at junction of Tsu. (also called Andra) and Matu rivers. Then descend ¼ mile (300 feet) to bridge of single tree trunk over Andra. Then rise 300 feet and travel along open hillside for 1 mile when road enters jungle. Road is then through jungle and open for 4 miles to large unfordable stream crossed by a tree trunk. Then ¼ mile to single hut called Amdoling in fields (7 miles). Then 2½ miles up stream to junction of Yongyap and Matu. Yongyap Chu is crossed by cane suspension bridge, 75 feet span. Camp at hut in clearing ¼ mile from bridge. In winter a bridge passable for animals is built across the Andra at Tshahuden. This is carried away by floods at end of April.
2	CAMP (6,500')	6½	16½	Road up left bank of Yongyap Chu through forest flat but rough for 2 miles when large fordable stream is crossed by felled tree (<i>C. G.</i>). From here rise 400 feet steep and continue upstream, road more hilly and rough. At 6½ miles is a small flat, where 2 companies could camp.
3	ABGYA PUKPA (7,400').	6½	23	Road flat for ½ mile, then rise 700 feet steeply followed by a more gradual descent of 400 feet, when a large unfordable stream is reached (2½ miles) crossed by a felled tree. Road then rises 400 feet and is hilly up to the 4th mile, when it descends to the river bed. Then road goes up river to 6th mile, when there is a precipitous descent of 100 feet. ½ mile further is a large cave called Abgya Pukpa near which is a rough camping ground.
4	SHAKANG (8,150')	5½	28½	1½ miles upstream is a small flat place where 1 company could camp. 1½ miles further is an unbridged stream 45 feet wide fordable in winter but in summer from end of May is often flooded for a day or two, when it is necessary to wait for it to subside. At 5th mile a fordable stream is crossed by a wooden bridge, ½ mile further is a small camping ground for 1 company. The road is steep and difficult in places but with no long ascents.
5	SUMDO (9,150').	7	35½	Rise 300 feet to a col; then further rise of 100 feet to spur called Shakang La (1 mile). From here descend 100 feet to river level where is a flat camping ground called Treu Troma. Road then fairly level for 1 mile to an unfordable stream, 40 feet wide crossed by a felled tree (2 miles). Then for 5 miles road is flat but marshy mostly through thick bamboo jungle to Sumdo, a single hut at the junction of a stream with the Yongyap Chu. Camp in clearing round hut.

ROUTE No. 1—*contd.*

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
6	YONGYAP LATSÄ, South. (10,600').	12	47½	Cross unfordable stream at camp by felled tree 40 feet span. Then road bad and marshy through bamboo; for 6 miles, after this better (over snow in May) through fir forest. Camp round a hut at Latsa reached after crossing a large open clearing in which are small bushes.
7	YONGYAP LATSÄ, North. (11,200').	10	57½	Road up valley through fir forest (over snow at end of May) for 2½ miles. Then flat for 1 mile when the Yongyap Chu here 6 feet wide is crossed. Road then climbs 1 mile steeply over deep snow 1,200 feet to summit of Yongyap La (13,020 feet) (4½ miles.) (This last mile took loaded coolies over 3 hours.) From here descend almost precipitously ¼ mile to the Yongyap Chu (5 miles). (This stream comes from the south-west and a track leads up it to Gya Tsa Pukpa in the Andra valley, near Route 2, stage 3.) Then ¼ mile down right bank of stream over open snow when fir trees commence; road continues through fir forest at 7th mile is a fordable stream, crossed by a felled tree, up which a track leads to the Anzong valley. At 10th mile is a flat clearing called Latsa.
8	YONGYAP DA (10,500')	8½	66	Road good down stream through forest. At miles 1½ and 4 unfordable streams are crossed by felled trees, the first-named Palung Chu. 7½ miles from Latsa is a clearing with a hut called Dzikong (C. G.) Yongyap D., 8½ miles, is a large clearing with a hut at the junction of the Rirung Chu. The road between the 2nd and 3rd, and 4th and 5th miles is through bamboo jungle and more difficult. At camp the pilgrim road to Kondü Potrang crosses the Yongyap Chu to the left bank by a cantilever bridge which is washed away in autumn and replaced in June. This road goes <i>via</i> Yongyap Chuka (Route 3, stage 1). There is no road down this Yongyap valley to its junction with the Tsangpo at Shümo suspension bridge (Route 7 stage 2).
9	DAMLE (12,000').	9	75	Road up the left bank of the Rirung Chu difficult along steep cliff side rising 400 feet in 1½ miles, when the Rirung Tso, a lake 1½ miles by 600 yards, is reached. The road is good and level along the shore of the lake for 1 mile when the confluence of the Pungpung Chu is reached (2½ miles). This stream is forded and the road goes N. E. up its right bank through forest. At mile 5½ is a hut called Tsongu in a clearing (C. G.) 1½ miles further is a hut and clearing called Shaga (C. G.) From here on the road is marshy, at 7½ miles is the Shaga stream. ¼ mile further the Shitro, both of which are forded, 9 miles from Yongyap Da is Damle hut and camping ground. There was 2 feet snow here at the end of May.
10	GYA Ö PUKPA (11,100').	8	83	Road up right bank of stream crossing to left after ¼ mile, and then rising steeply 1½ miles to a spur. Thence a slight descent of ½ mile when a small stream is crossed. From here rise 1,000 feet in 1 mile steeply to the summit of Pungpung La 14,300 feet (3½ miles). (Coolies took 2½ hours climbing this last mile at the end of May when the snow was deep and soft). To avoid cliffs the road from the summit turns along the hillsides to the right (west) rising a further 300 feet in ½ mile. It then descends ¼ mile gradually and ¾ very steeply to the outlet of the Tso Kata (lake) (5½ miles, 13,200 feet). From here a very steep descent at first down the right side of the valley, later crossing to the left, Gyayö Pukpa at the 8th mile, a large cave and hut in the forest. The whole road, except the last ¼ mile, was under deep snow at the end of May and coolies were 12 hours on the march.

ROUTE NO. 1—concl'd.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
11	CHIMDRO (Gotam villag 6,45').	13½	96½	¼ mile from the hut road crosses to right bank of unfordable stream by 25 foot log bridge. 1½ miles from camp another road branches off crossing the river by a bridge. At 3½ miles after some steep descents a fordable stream is crossed and at 5 miles another stream in a deep gorge. For ½ mile from here road is bad and difficult, crossing a series of landslips near the river bed, it then rises 400 feet and keeps 1,000 feet above the water finally descending to Kyureden village (2 houses) at mile 11 where the road which has been through forest the whole way comes out into the open, ½ mile further the unfordable Chimdros Chu is reached and crossed to the right bank by a cantilever bridge 70 feet span, ½ mile further is Bohung village 20 houses. 1 mile from here road crosses a stream in a deep gorge by a bridge and ½ mile further is the monastery, residence of Dzongpön, about 6 houses called Gotam and camping ground. A camp could be made anywhere after reaching Kyureden. Valley is well cultivated and about 20 pories, 50 cattle and supplies of barley, wheat and a little rice could be obtained.
12	TAPODEN	7½	104	Road down 300 feet ¼ mile to cantilever bridge 60 feet span to left bank of river. Then ½ mile to large fordable stream, Gotam Chu crossed by a log bridge. Then 1½ miles passing several small villages to the Rirung Chu (fordable) crossed by a log bridge (2½ miles). Thence down left bank of river, to scattered village Nyapa, 10 houses (4½ miles). ½ mile further is unfordable Sasum Chu crossed by a 15-foot bridge. Then passing several huts and grazing camps 2 miles to Tapoden clearing and hut in forest.
13	SHIYUR PUKPA (6,650').	9	113	1 mile to bridge over Shingshi stream fordable, 1 mile to another small stream Pari Chu. Thence ½ mile to Pari Pukpa, a cave which would hold 10 men. Thence after crossing a small stream the road crosses a landslip (3½ miles). Thence 1½ miles ending with a steep rise of 400 feet to Domgyur Pukpa (5 miles) 2 caves with accommodation for about 50 men. From cave drop 200 feet to small stream which occasionally becomes impassable in heavy rains but always subsides within 24 hours; then rise 500 feet in 1½ miles. Then 2½ miles up and down to small stream, the first water after leaving Domgyur Pukpa. Then ½ mile to Shiyur Pukpa, a cave accommodating about 15 men. Water from small stream just beyond, which sometimes dries up. From here a shikaris track crossing a rope bridge over the Chimdros Chu leads to Sandon in Po mo. (See Route 10, stage 8.)
14	KAPO	8½	121½	Small streams are crossed at 1 and 2 miles, after which there is no water for 5 miles. The road is up hill the whole way to the Tungtung La (7,550 feet, 3½ miles). From pass road descends very steeply. 1½ miles from the pass the road to Tamo village goes off to the right. 1½ miles further is a small stream, the first water after the 2nd mile (6½ miles). Then for 1½ miles road is more level but rough into Kapo, 5 houses on level turf. Road is very bad up to pass going over many ladders. Supplies of millet, maize, a little rice (4 scores a rupee) and some cattle.

Route No. 2.

MIPI TO TAMBUR (ROUTE 7, STAGE 3) ON THE TSANGPO *via* THE ANDRA VALLEY.

(12 stages partly from local information.)

Epitome.—This road goes up the Andra Chu and crosses the Zikyen La, a high pass which is only open during July and August, and passes the holy mountain of Kondü Potrang, reaches Rinchenpung Gumpa on a hill above the Tsangpo valley. Heavy rain may make the road impassable the first three stages.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	SUTSUK .. ..	..	..	Camp in forest. } These marches were reported by Captain Hensley when with the Dibang Survey Party.
2	SHAGI NYEMA .. ..	..	..
3	CAMP BELOW SHATSU LA.	..	..
4	SUMDO .. ..	..	..	Camp in forest. A spur, the Shatsu La, is crossed.
5	SHAGI I .. ..	..	..	Camp in forest.
6	SHAGI II .. ..	..	..	Camp in forest.
7	ANDRA LATSA .. ..	..	..	Camp in forest.
8	KABJE PONGRUNG .. ..	..	..	Hut in the forest. There is a steep climb out of the valley of the Andra Chu.
9	DRUKSA KONG MA .. ..	..	..	Hut in the forest. The Zikyen La is crossed.
10	TAPAK .. ..	..	..	Ten miles according to Kintup. A Gumpa and large house built for the Dzongpön but unoccupied, also 5 inhabited houses and some empty houses for use of pilgrims. Scanty supplies but good grazing and good large camping ground.
11	RINCHENPUNG	10	..	
2	TAMBU	7½	..	Road goes slightly up hill 1 mile to a pass, it then descends 3,000 feet very steeply in 4½ miles. Then ½ mile descent less steep to Meto village. Then 1 mile to where road joins the main road up the Tsangpo in a marsh. Then ½ mile to Tambu, (Route 7, stage 3), 10 houses of Lopas. Supplies plentiful.

Route No. 3.

ANDRA LATSA (ROUTE 2, STAGE 7) TO YONGYAP DA (ROUTE 1, STAGE 8) *via* THE ANDRA LA.

(2 stages from local information.)

Epitome.—This is an alternative to Route 1 from Mipi to Chindro crossing the Andra La instead of the Yongyap La. The former pass is sometimes open earlier than the latter. The road is bad and heavy rain may make it impassable.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	YONGYAP CHUKA .. ..	..	..	The Andra La is crossed. Camp in forest.
2	YONGYAP DA .. ..	..	..	Road up the Yongyap Chu. Camp at hut in forest.

Route No. 4.

CHINDRO (ROUTE 1, STAGE 11) TO RIMA.

(22 stages from local information.)

Epitome.—This road goes 5 days up the Chindro Chu to the Kangri Karpo La, a high pass closed in winter and which frequently has snow on it in summer. Across the pass the road enters the valley of the Rong Tö chu which it follows down to Rima. It is very difficult for about 15 days between the pass and the first

ROUTE No. 4—*contd.*

village Sole in the Rong Tö Chu and the track is hard to find. From Sole to Rima the road is good and a mounted man can cover the distance in 1 day, while a man with a load takes 2 days. Sole is close to Ruipu and Alupu, places to which the Chulikata Mishmis come to trade by passes at the head of the Dri and Dibang rivers. Sole is probably A. K.'s Sonling, in which case it is 37 miles from Rima.

Route No. 5.

CHIMDRO (ROUTE 1, STAGE 11) TO DASHING (DAYING).

(4 stages from local information.)

Epitome.—Road passable for animals in July, August and September, men can also cross the Chimdro La in June and sometimes in October. This is the only road between Chimdro and Po me which is passable for animals.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	GYAMBI TANG .. ..	..	..	From Gotam the road goes up the right bank of the Chimdro Chu for 5 miles to Shingki Gampa, where it turns north up the Dashing Chu. The camp is at a hut in the forest.
2	TEKEN .. ..	..	..	Pass a grazing hut called Tsachuka and camp at the grazing hut of Tekan.
3	DOHUNG .. ..	..	..	Cross the Chimdro La. Camp at a grazier's hut.
4	DASHING .. ..	..	..	Pass a grazing ground with several huts called Pamdro. Dashing is a village in Po me on the bank of the Po Tsan po, which is bridged here. Dashing is directly under the Lhasa Government.

Route No. 6.

CHIMDRO (ROUTE 1, STAGE 11) TO SUM DZONG.

(5 or 6 stages from native information.)

Epitome.—A bad and little used road; an alternative route to Route 5 leading from the Chimdro valley into Po me. The road goes up the Chimdro Chu 3 miles beyond Shingki Gampa (Route 5) and then turns north up the Dong Chu, at the head of which it crosses a difficult pass, the Dong Chu La, and then enters a tributary of the Po Chu, which it follows down to Sum Dzong, which is reached in 5 or 6 days from Chimdro. The road is impassable for animals.

Route No. 7.

KAPO, 4,800' (ROUTE 1, STAGE 14) TO MIKÖN.

25 miles.

3 stages.

Epitome.—Road rough and hilly down left bank of Tsangpo. Supplies plentiful. Impassable for animals.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	MAKTI (3,550').	11½	11½	Descend 2,000 feet steep in 2½ miles to Lamtung, a fordable stream, thence level to boulders in the bed of the Tsangpo over which road is difficult for ¼ mile (to mile 3½). Road then leaves river and rises 500 feet in 1½ miles to Giling village of 2 houses (3150 feet) (C.G.) (4½ miles). The road is then flat for ½ mile when it descends 600 feet in ½ mile to the bed of the river. For ½ mile road then is partly over boulders in the river bed and partly through forest to the Hering Chu, a small but unfordable river crossed by a log bridge (6 miles). From here road is good, with one steep ascent, for 3 miles to Meri, a village of 3 houses (C.G.) From here 2½ miles rising 600 feet to Makti, a village of 12 houses. A good camping ground and supplies plentiful.

ROUTE No. 7—*contd.*

No. of stage.	Name of stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
2	PAMIDEN	9	20½	Road is flat up for 1 mile, when it drops steeply 600 feet. It is then hilly to Bungmo village, (3,950 feet) 12 houses, which is reached after a stiff climb (4½ miles). From here there is a steep drop of 1,000 feet, after which the road is more or less level, but rough through forest to a cane suspension bridge 150 feet span over the Shūmo river (7½ miles, 2,600 feet). In winter a temporary bridge is built below the cane bridge which is easier to cross. From the bridge rise steeply 1,000 feet. At the 9th mile is a large open place where a force could camp. Water from several small streams. There is a larger stream, the Pipo Chu, ½ mile beyond camp.
3	MIKÖN	5	25½	½ mile to Pipo Chu, fordable, then 1 mile good, to Tambu village (10 houses). From Tambu a road goes down to a cane suspension bridge over the Tsangpo. From Tambu road is for 1 mile over logs on a marsh to Hangjo village (2½ miles). In the marsh a road branches off to Meto and Kinchenpung (see Route 2). From Hangjo 2½ miles crossing one deep nullah to Mikön. From Mikön a track leads over a pass into the Enra valley, a tributary of the Dibang, which is reached in about 10 days. The pass on this road is closed in winter. From Mikön a road goes down the valley to Singing in the Abor country about six days' march.

Route No. 8.

KAPO (4,800') to PE (9,800')

Via Showa in Po me.

208½ miles.

24 stages.

Epitome.—This road leads from the Tsangpo valley below the great bend to the same river above the bend. It goes for five stages up the left bank of the river to Charasa, then up the Pablung Chu to the Sü La, which forms the frontier between Pemakö and Po me. This pass is closed from November to the end of May when an alternative route into Po me lies up the Tsangpo (see Route 9). There is aconite on the pass. Up to the pass the road is impassable for animals. At the Sü La the road enters the valley of the Po Tsangpo and is passable for loaded animals with the exception of the distance between Dre (stage 14) and Chuluk (16) and unloaded ponies can be taken along this section by diversions round difficult places. At Tang me (stage 13) the road goes two days up the right bank of the Yigrong Tsangpo to a ferry and two days down the left bank as the bridge at Tang me is carried away in summer. With the exception of these four days the road from Temo (Route 16, stage 4) to Showa has been made by Chinese and is 3 to 4 feet wide. From Temo to Layötting (stage 19) it is better and about 5 feet wide, but rapidly getting out of repair. At Trulung (stage 17) the road leaves the Po Tsangpo valley and goes up tributaries to Lunang, the first village in Kongho. From Lunang the road crosses the Nyima La into the Tsangpo valley. The pass is closed from December to March when an alternative road leads into the Tsangpo valley at Temo via the Temo La which is never closed as the traffic over the snow keeps it open in winter. There is aconite on the Nyima La and down the north side as far as Chunyima (stage 21). Supplies on this road in Pemakö are mostly maize and buckwheat. In Po me wheat and barley. Camping grounds in Pemakö are bad, the fields being usually the only places. Streams are fordable unless otherwise stated; streams reported unfordable may be fordable in winter. Unless otherwise stated camping grounds are for at least four companies. Differences in heights on the road were taken by aneroid.

No. of stage.	Name of stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	DRUK (4,950').	8	8	Descend 500 feet in 1 mile to the Karing Chu, fordable, ½ mile further are two houses from which a road branches off to Tamo village, then road is good through tall grass for ½ mile when there is a steep descent of 900 feet in ½ mile to a cane suspension bridge over the Chimdro Chu, 150 feet span and 100 feet above the water (2½ miles). (There is a narrower bridge site 200 yards downstream, which is not used as a

ROUTE No. 8—*contd.*

No. of stage.	Name of stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
				road, must be cut in the rock to reach the site. From the bridge road rises very steep 3,000 feet in 2½ miles to the Atri La (5 miles). There are flatish places 1,500 and 2,500 feet above the bridge where camps could be made. From pass road descends gradually crossing a spur to Druk village 8 houses, up to pass road is through thick forest after that forest is thinner and of pine. Scanty supplies of maize and buckwheat.
2	SAYÜ (4,150').	11	19	Road is bad much up, and down with a final steep climb of 1,000 feet to the Druk La (4 miles). Then 1 mile level to the Dabum La. Then down very steep for 1½ miles to the first water on road from the start (6½ miles). Thence 4½ miles rough mostly downhill to Sayü, 3 houses. The road is through thick forest the whole way. Supplies scanty.
3	KEMTENG	5	24	A steep climb of 800 feet to a spur 1½ miles, then a gradual descent of ½ mile to the Dongdi La whence descent of 850 feet on a good road to Pangshing village, 40 houses (3½ miles.) From village rise 800 feet to a good camping ground near Kemteng village, 20 houses. Supplies of maize, etc.
4	TSANGRANG (4,550').	7	31	Climb 200 feet in 1 mile to a spur, from which descend 800 feet in 2 miles to a stream, then climb 700 feet steep in ½ mile to Pango village, 15 houses (3½ miles). Thence drop 800 feet in 1 mile to a stream, after which road is up and down for 1 mile to Gyake Chu, fordable (5½ miles). Then 1½ miles up and down crossing several steep nullahs to Tsangrang, 5 houses. Scanty supplies of barley, maize, etc. The road is through cultivation and open hillside with very little forest.
5	CHARASA (5,000').	10½	41½	Climb steeply 2,000 feet in 2½ miles to a rest-house for travellers, thence rise 400 feet in ½ mile to the Namtung La. Then descend 3,000 feet in 4 miles to Lungtam stream (7 miles); descent is at first gradual through forest, later very steep through tall grass. From stream rise 500 feet in 1½ miles to Gepang village, 4 scattered houses. Then a further rise of 1,000 feet in 2 miles to Charasa, 15 houses. Supplies of barley, maize, etc.
6	DOMKAR (6,850').	7	48½	Rise 1,000 feet steeply in 1 mile to Lagung village and drop 1,400 feet in 2 miles to a 30-foot cantilever bridge over the Pablung Chu. (There is also a more level road which avoids the climb to Lagung.) From this bridge the road up the Tsangpo branches off going down the right bank of the Pablung (see Route 9). From bridge road is hilly up the right bank of the stream rising 2,200 feet in 4 miles when a clearing in the forest on a spur where there is 1 house called Domkar is reached. ¼ mile further is a rest-house which will hold 50 men. Water from a small stream. No supplies.
7	SÜ LATSA, SOUTH (9,700').	7	55½	Road continues up right bank of stream. Two houses called Kongpang are passed 1½ miles from Domkar, 2½ miles further the stream is crossed to the left bank by a felled tree, 1½ miles further is an open grassy camping ground called Dandem (5½ miles). Up to this point the road is bad through forest, from here on it is better and more open, 1½ miles further the road leaves the forest and there are 3 grazier's houses near which a force could camp. No supplies except sheep and cattle.
8	SÜ LATSA, NORTH (11,150').	5½	61	Road goes up the valley for 2 miles rising 900 feet; it then climbs steeply to east side of the valley rising 2,900 feet in 2 miles when the summit of the Sü La is reached, (4 miles, 13,445 feet). The road is

ROUTE No. 8—contd.

No. of stage.	Name of stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
9	SHOWA (8,520').	12	73	at first through fir forest, but later over hard snow (in June). From pass descend 2,200 feet over steep snow for 1½ miles to a grassy camping ground just clear of snow. No house and no supplies. Road goes down the valley of the Sulung Chu; ¼ mile from camp, the valley opens out, it is then flat and open for ½ mile during which several streams are forded, knee deep; road then enters thin forest and goes down the right bank of the stream which is unfordable; road is in places marshy. 3½ miles from camp is a hut and open camping ground called Drosam. 3 miles further is another clearing with 2 huts where force could camp. ¼ mile further (7½ miles) the Sulung Chu is crossed, near its junction with the Po Tsangpo, by a 50-foot cantilever bridge. From here a road goes up the left bank of the Po Tsangpo to Dashing (see Route 10). The road goes down the left bank of the river for 2½ miles when an unfordable stream is crossed by a 45-foot cantilever bridge. From here the road rises leaving the bank of the river and 1 mile further crosses a spur (10½ miles), ½ mile further the first houses and fields of Showa are reached. 1 mile further is a large rest-house which would hold one company, round which is a camping ground for a regiment. Showa is the capital of Po mo. The palace and <i>Gompa</i> were burnt by the Chinese in 1911. Plentiful supplies. About 40 houses, mostly on the left bank of the river.
10	PETANG (8,000').	7½	80½	From camp go ½ mile down to a cantilever bridge over the river 10 feet wide, 150 feet span, 75 feet above the water with 9 tiers of levers at each bank; at both ends of the bridge are block-houses. After crossing the bridge the road goes down the right bank of the river for 2½ miles when Tatar village of 2 houses is passed just beyond which the fordable Tatar Lung Chu is crossed. 1¼ miles further the Lo Chu a large fordable stream is crossed by a bridge (4½ miles). 2½ miles further the unfordable Petang Lung Chu is crossed by a 25-foot log bridge, ½ mile further is the scattered village of Petang (5 houses). The road is good, keeping along the hillside about 150 feet above the water.
11	DEM (7,850').	10½	91	Road is good for 2½ miles, when an unfordable stream, the Satang Chu, is crossed by a 28-foot bridge from here for 5½ miles the road goes through a good deal of cultivation and passes several houses which form the villages of Satang and Gyatso. The road then rises and passing a single house crosses a spur 700 feet above the water called the Lhunbung La. The road is then narrow along the steep hillside. 10 miles from Petang some terraced cultivation and a few houses of Dem village are passed; ½ mile further is the main part of Dem (6 houses) about 1,000 feet above the river. Several good camping grounds are passed on the road.
12	TANG TÖ (7,150').	11½	102½	Road is good and flat over old cultivation to the unfordable Tralung Chu in a ravine crossed by a 25-foot bridge (1 mile. C.G.) 2 miles further the road crosses the Serung Chu which is fordable. The road is then through forest along the hillside for 3 miles when a single house called Tsira is reached among deserted fields (6 miles). Here is a camping ground with water from a small stream to the west. 1 mile further, after passing some more houses, is a stream near which a force could camp. From here the road is bad and rocky through jungle for 3 miles rising to a height of 1,500 feet above the river (10 miles). From this point the road descends 1,000 feet to Chubli stream just beyond which is Tang tö (5 houses).

ROUTE No. 8—*contd.*

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
13	GYADZONG (7,250').	11½	114	(From here a winter road goes 1 mile to a bridge over the Yigrong Tsangpo across which is Chuluk, camping ground, stage No. 16. This bridge is carried away in summer and the road goes <i>via</i> Dro (stage No. 14). The road is level and open through fields for 1½ miles to Tang nevi la ge, where here is: good stone building, the palace of the chief who was killed by the Chinese; from here rise steeply 600 feet in 1 mile to a spur, the Chuma La, and drop 800 feet in ¾ mile to the bed of the Yigrong Tsangpo (3¼ miles). Then rise 300 feet over a spur and drop to a stream, from which is another rise to a flat spur (C. G.) and drop again to a small stream (4½ miles). Road then rises to a spur and descends to the river level over galleries built up from the river; road then goes along the river bed and then rises to 2 houses of the village of Pepe (6½ miles from Tong tö). It then drops to river level and crosses the unfordable Manglung Chu by a 55-foot bridge (7¼ miles). From bridge climb to cultivated flats and at the 8th mile reach 2 more houses of Pepe with a stone rest-house (C. G.). The road is then flat through fields for ½ mile, when it enters forest and climbs 800 feet through pines to the Pala La at the 10th mile; from here it drops 500 feet over cultivated slopes and enters the cultivation of Gyadzong. Here is a large stone <i>Gompa</i> and about 20 houses. Supplies plentiful.
14	DRE (7,300').	5	119	Road is flat through fields for ½ mile; it then rises over an alluvial fan and is partly through jungle for 2½ miles to the Tralung Chu which is forded knee deep 15 feet wide, and very swift. This stream frequently comes down in flood and is not bridged for that reason. One mile further a lake is reached (4 miles). This is crossed in dugouts, of which there are 3 at Dre, each holding 10 men. The boat is rowed up the lake 20 minutes and then across another 20 minutes. Dre is ¼ mile from the lake. The boats are made of two dugouts, 30 feet long, 3 feet broad, tied together side by side. This holds 20 men. From Dre a road goes up the valley to Alado (Route 13).
15	SANGYÜ (7,250').	9	128	Road goes away from the lake for 1 mile when the unfordable Dre Lung Chu is crossed by a bridge in 2 spans of 36 and 18 feet resting on a rock in the stream. (In winter this stream can be forded near its junction with the lake, thus shortening the road.) From the bridge the road is up and down through jungle for about 2 miles when it approaches the Yigrong Tsangpo. Here some difficult cliffs have to be crossed which are avoided in winter by a road in the bed of the river. 5 miles from Dre the unfordable Tawan Chu is crossed by a felled tree. 1¼ miles further after a steep rise of 600 feet Seyü village of 2 houses is reached, 1¾ miles further (8 miles) after crossing a fordable stream one house of Sangdzong or Sangyü village is reached 1 mile further after passing another house of Sangyü a flat camping ground is reached. Water from a small stream below.
16	CHULUK (6,850').	8½	136½	Road is rough through jungle for 2 miles, when it reaches a sandy flat in the bed of the river (C. G.) ½ mile further it enters the jungle again and climbs steeply up and down for 2 miles, when after crossing another sandy flat (C. G.) it climbs 400 feet steeply and goes through jungle for 1½ miles, when it again drops to a sandy camp in the river bed (6 miles). From here it climbs steeply 1,000 feet in 1½ miles to a spur the Chuma La. From here the road drops steeply 1 mile to the junction of the Yigrong and Po rivers. Camp is on a flat 50 feet above the water, called Chuluk. No house, but several small overhanging rocks where travellers sleep.

ROUTE NO. 8—*contd.*

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
17	TRULUNG (6,450').	10½	147	Road is level along river bank for a short distance and then climbs 800 feet to a spur, from which it descends, at first very steeply, 3¼ miles from camp is a small stream, near which is a camping ground. From here rise 800 feet steeply in ¾ mile to a spur from which descend 1 mile to a flat, where 2 companies could camp (5 miles). The road is then hilly through jungle about 200 to 500 feet above the water for 5 miles when the unfordable Trulung Chu is crossed by a 65-foot cantilever bridge, ½ mile down the right bank of the Trulung Chu near its junction with the Po Tsangpo is a flat camping ground, but no house. Above the bridge was the village of Trulung which was destroyed by Chinese in 1912. From here a road in winter crosses the river by a rope bridge and goes down the left bank to its junction with the Tsangpo (see Route 9).
18	CHEMA CHEMBO (7,250').	8	155	From camp rise at first gradually, later very steeply, 900 feet through thick forest, to a spur to Chabji La, 1½ miles. Then descend 1½ miles, at first steeply and later through fields to 27-foot bridge over unfordable Palongteng Tro Chu (C. G.). The village of Palongteng destroyed by Chinese was here. From bridge climb 700 feet in 1 mile to a spur, the Desingko La (4 miles). The road then goes up and down through thick forest for 2¼ miles when some flats and a hut on the left bank of the Rong Chu are reached (C. G.). 1¼ miles further after crossing a large fordable stream by a bridge 15 feet span, more flats are reached. For ½ mile on from here up to the 8th mile are the sites of the fields of Chema chembo village destroyed by the Chinese. Camp anywhere on these fields. No supplies, but good grazing.
19	LAYÖTUNG (7,950').	6	161	Road for 1 mile through forest to a flat camping ground for 2 companies. ¾ miles further is the fordable Palong Chu crossed by a 15-foot bridge. 2 miles further the road leaves the forest; the road is then good and open for 2¼ miles to Layötung village reached after crossing the fordable Trilung Chu by a 15-foot bridge. Supplies of <i>tsampa</i> .
20	TONGKYUK BRIDGE (8,340').	7½	168½	Road at first through open cultivation, later through jungle which gradually opens out into thin pine forest. The road goes along the hillside for 4 miles when a single house, Lechung, is reached (C. G.). From here the road rises to about 800 feet above the water and descends to a cantilever bridge 120 feet span over the Rong Chu (7½ miles). There is one house at the bridge and a large camping ground just beyond on the right bank of the river. Tongkyuk Dzong is 1 mile up the left bank, whence supplies and about a dozen ponies could be obtained.
21	CHUNYIMA (10,250').	9½	178	The road goes a short distance down the right bank of the Rong Chu and then up the left bank of the Lunang Chu. 1½ miles from camp a road leads across a bridge over the Lunang Chu to the village of Sip on the right bank. From Sip a pilgrim road goes over the hills and comes down the Netang valley, a short distance above Chema chembo, (stage 18), 5 miles from Tongkyuk bridge the road which has been through pine forest comes out into some open flats where there is one house Gomo chandze (C. G.) 3½ miles further is a fordable stream crossed by a 12-foot bridge just beyond which there is a bridge over the Rong Chu leading to a grazier's hut called Dao. 1 mile further is a good and large camping ground on turf just beyond which is Chunyima village, 2 houses. Good grazing, but no supplies.

ROUTE No. 8—*concl.*

No. of stage.	Name of stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
22	LUNANG (11,050').	7	185	Pass Chunyima village and go up the left bank of the Lunang Chu, the road being rough, stony and steep in places through forest for $4\frac{1}{2}$ miles to a 63-foot cantilever bridge over the river to the right bank; this bridge is the Kongbo-Po me frontier; thence up the right bank of the river the road being better. 1 mile from the bridge a fordable stream is crossed, after which the country is more open. $1\frac{1}{2}$ miles further the large village of Lunang in two halves is reached. Supplies of barley, etc., and many ponies and cattle. Temo (Route 16, stage 4) is reached in one long day's march over the Temo La (about 14,200 feet), a pass which is never closed in winter though there is a good deal of snow.
23	NYIMA LATSA ..	13	198	The road is good and flat up the east side of the grassy valley of the Lunang Chu for 2 miles when it crosses to the left bank by a 50-foot cantilever bridge. It then goes for 4 miles up the left bank when a 63-foot cantilever bridge leads to the village of Tumbatso (11,650 feet) on the right bank. This is the highest village in the valley. From the village the road leaves the main valley and ascends a branch valley and is rough through forest for 6 miles to the Nyima La (15,240 feet). For 500 feet below the pass on either side there are no large trees but only dwarf bushes. From the pass the road descends 1 mile steeply to a flat place where there is one hut. No supplies. Fuel plentiful and grazing good.
24	PE (10,000').	$10\frac{1}{2}$	208 $\frac{1}{2}$	From camp descend the valley steeply crossing the stream several times by easy fords. In the first 3 miles the road drops 2,000 feet after which it is less steep. $5\frac{1}{2}$ miles from camp Yang ngön village of 5 houses is reached; there is insufficient water for a force to camp here. 3 miles further (after passing Timpa village $\frac{1}{2}$ mile from the river) the bank of the Tsangpo is reached at a ferry (8 $\frac{1}{2}$ miles). There is one boat made of two dugouts tied side by side which holds about 12 men with their kits. The river is 200 yards broad with some current, below it is broader and stiller. From the ferry on the right bank the road goes upstream, crossing several fordable streams and the unfordable Doshong Chu which is crossed by a 15-foot bridge to Pe village, 10 houses. Supplies plentiful. One mile further up stream is Shoka village, where there is a large house used by travellers which would hold one company. It was used by Chinese troops.

Route No. 9.

CHARASA (5,200 FEET, ROUTE 8, STAGE 5) TO TRULUNG (6,450 FEET, ROUTE 8, STAGE 17).

(7 stages from local information.)

Epitome.—This road goes up the Tsangpo, which is crossed twice by rope bridges, to its junction with the Po Tsangpo at Gampo ne; it then goes up the left bank of the Po Tsangpo to Trulung, at which place it crosses to the right bank by a rope bridge. Some of the bridges on this road are carried away in summer when Route 8 *via* the Sii La is used. The road is impassable for animals. This is the only road from Pemakö to Showa in winter.

No. of stage.	Name of stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	GANDE .. ..	..	..	The first 3 miles as far as the bridge over the Pablung Chu are the same as Route 8, stage 6. The road then passes Lunglop village and crosses a spur, the Kambo La, from which it drops steeply to Gande, a Lopa village.

ROUTE No. 9—*contd.*

No. of stage.	Name of stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
2	DOGAB .. ..	..	..	Road up the left bank of the Tsangpo ; about half way pass Japong Gompa. Close to Dogar is Pongke village.
3	PAYÜ .. ..	..	..	The road climbs over a spur, the Sertong La, and drops to the river, which is crossed to the right bank by a rope bridge, from which there is a steep climb to Payü, a Mönba village. From here a road leads over a pass to Pemaköchung (Route 15).
4	KONANG .. ..	..	..	This is a camp just below the junction of the Po Tsangpo and the Tsangpo. The latter river is crossed by a rope bridge, during this march.
5	MICHUNG .. ..	..	..	A spur, the Prana La, is crossed this march.
6	NGUPANG .. ..	..	..	A spur, the Karma La, is crossed.
7	TRULUNG (6,450').	..	..	Tangdong village is passed. The Po Tsangpo is crossed by a rope bridge at Trulung. This bridge is carried away in summer.

Route No. 10.

SHIUDEN GOMPA (13,700') TO SHOWA (8,520') (ROUTE 8, STAGE 9).

(10 stages from local information.)

Epitome.—The road is down the Nagong Chu or Po Tsangpo, the whole way it is passable for animals with the exception of the first three marches. Route 11 is an alternative route by which animals can travel.

No. of stage.	Name of stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	WA .. ..	..	..	Also called Ro Wa.
2	MI TÖ .. ..	..	..
3	MI ME .. ..	..	..
4	GYUNG .. ..	..	..
5	RANGA Gompa .. ..	..	..
6	SUMDZONG .. ..	..	..	A Dzong directly under Lhasa. The <i>Gompa</i> was burned by the Chinese in 1911. There is a road from here to Chindro (see Route 6).
7	DASHING .. ..	..	..	A Dzong under Lhasa. A road goes south to Chindro (see Route 5).
8	SANDEN .. ..	..	..	Close by on the opposite bank of the river is Kata village at the junction of the Po tö Chu and the Po Tsangpo. A shikarry's track comes in here from Shi Yur Fukpa in the Chindro valley (Route 1, stage 13).
9	GAM .. ..	..	..
10	SHOWA (8,520').	..	..	The capital of Po me.

Route No. 11.

SHIUDEN GOMPA (13,700') TO SUMDZONG (ROUTE 10, STAGE 6).

(5 stages from local information.)

Epitome.—This road is passable for animals and avoids the first three marches of Route 10, which are impassable for animals.

No. of stage.	Name of stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	RAMBU GOMPA .. ..	..	..	Pass Ranya village, 7 miles from Shiuden Gampa.
2	GYARA .. ..	..	..	No village.
3	KYOLO .. ..	..	..	Many houses. The Dzutong La, a pass closed in winter, is crossed.
4	DORGEDZONG .. ..	..	..	Burnt by the Chinese in 1911.
5	SUMDZONG .. ..	..	..	Route 10, stage 6.

Route No. 12.

SHOWA (8,520') TO SHOBANDO THROUGH PO TÖ.

(5 stages from local information.)

A pony road leading from Po me to the main Lhasa-Batang road.

No. of stage.	Name of stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	KATO .. ..	..	..
2	CHUMDO .. ..	..	..
3	TENAKA .. ..	..	..
4	WONGDU .. ..	..	..	A long march. Cross the Chumdo La, a pass closed in winter. From Wongdu it is a long day's march to Lhodzong.
5	SHOBANDO .. ..	..	..	On the Gyalam or main road to China, 200 houses according to A. K.

Route No. 13.

DRE (7,300') (ROUTE 8, STAGE 14) TO ALADO ON LHASA-BATANG ROAD.

(10 stages from local information.)

Epitome.—This road goes up the Yigrong valley and leads from Po me to the main Lhasa-Batang road. It is a bad road for the 7th and 9th stages and is much worse in summer than in winter, as in summer the road crosses several high spurs, while in winter it follows the river bed. Several rope bridges are crossed, but unloaded animals can pass.

No. of stage.	Name of stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	DRONTONG LATSA .. ..	..	..	Camp in the jungle. The road goes up the west side of the Yigrong Tso (lake).
2	TALI .. ..	..	..	A village of 10 houses. The road crosses a high spur, the Drontong La, and also goes over a rope bridge. The villages of Tomuchu and Rupa (10 houses each) are close by.
3	CAMP AT A CAVE .. ..	..	..
4	BOYÜ .. ..	..	..	Village of 5 houses.
5	RIGUNG KA .. ..	..	..	Village of 30 houses. The village of Shang (5 houses) is passed and a high spur is crossed.
6	CHO CHU .. ..	..	..	Village of 3 houses. The road crosses a rope bridge near the village.
7	CAMP .. ..	..	..
8	CAMP .. ..	..	..
9	NYUN .. ..	..	..	The frontier village half of which is under Po me and half under Lhasa.
10	ALADO .. ..	..	..	A village on the Lhasa-China road. 7 houses according to A. K.

Route No. 14.

TONGKYUK DZONG (8,340') (ROUTE 8, STAGE 20) TO GYAMDA.

(6 stages from local information.)

The road is passable for animals.

No. of stage.	Name of stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	NAMPU DE .. ..	..	..	Pass 3 villages—Tromo (21 houses), Pako (22 houses and Lungmo (70 houses).
2	LO .. ..	..	..	Cross the Nampu La, the frontier of Po me.
3	SHOKA .. ..	..	..
4	NAM SE .. ..	..	..
5	NAPÖ .. ..	..	..	Route 19, Stage 5.
6	GYAMDA .. ..	..	..	On the main Lhasa-Batang road.

Route No. 15.

PE (9,800', ROUTE 8, STAGE 24), TO PAYÜ (ROUTE 9, STAGE 3).

(11 stages partly from local information.)

Epitome.—The road goes down the right bank of the Tsangpo to Pemaköchung (stage 6). Below Gyala (stage 2) the road is never used from May to October and may be impassable in places where it goes down the bed of the Tsang; o. In mid winter also it may be closed by snow. Animals can be taken as far as Gyala and with difficulty to Pemaköchung in winter only. The road below Pemaköchung is very bad and difficult even for coolies and is seldom used. From stage 9 it crosses a spur which juts out into the bend of the river and reaches Payü lower down on the Tsangpo. Supplies are obtainable as far down as Gyala.

No. of Stage.	Name of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	TRI PE (10,000').	9½	9½	The road is down the right bank of the river crossing the unfordable Doshung Chu by a 15 foot bridge ¼ mile from Pe. 2 miles from Pe after a steep climb a large temple among ruins called Tatokar is reached. 2 miles further after passing Tatokar village on a cultivated terrace and crossing a rocky spur, Lingba village (3 houses) on cultivated flats is reached. 1½ miles further after crossing another rocky spur Nyiting (4 houses) is reached (5½ miles) and 2 miles further is Kyikar (5 houses) on a terrace beyond a rocky spur. From here a road goes over the Nam La to Puparong in Pemakö. The pass is only open in July August and September. From Kyikar descend steeply ¼ mile to the unfordable Nalung Chu crossed by a 30-foot bridge (8 miles). ¼ mile further is a 25 foot bridge over the unfordable Trilung stream and 1 mile up hill is Tri pe village, (6 houses).
2	GYALA — .. (9,300').	11½	20	The road is flat over fields with a steep descent of 200 feet to the fordable Pulang stream (¾ mile). It is then steep up and down, narrow and rocky for 1 mile after which it is flat for 1 mile to Lum pe village (3 houses.) From village climb ¾ mile to an open plateau (3½ miles). After going a few hundred yards across the plateau the road drops 300 feet through jungle, after which it goes through jungle for 5 miles, passing some fields and being rough and rocky in places; it then reaches the fordable Tsalung stream crossed by a 15-foot bridge (8½ miles). ¾ mile further a place is reached where a rock juts out into the river. Men can cross the face of the rock with difficulty but pories have to swim a few yards. The road then rises 400 feet and is good and flat into Gyala Dzong. A good camping ground. Supplies of tsampa, sheep and cattle.
3	KUMANG (10,350').	5½	25½	Riso 1½ miles over fields to a spur, whence descend 1½ miles down a bad road to the fordable Kenta Chu, which is crossed by a bridge (3 miles). From here a steep and rough ascent of 1½ miles, passing a sulphur mine, to a spur, 1,500 feet above the river (4½ miles); thence 1 mile hilly through forest to a small camping ground, which after clearing the jungle would hold 1 company. There is one hut here. Water from a stream to the north. No supplies.
4	NYUKSANG .. (8,830').	8	33½	Road is rough and hilly through thick jungle for 4 miles when a small stream opposite Gyala Peri is reached. Then down through rather thinner forest with some level places for 1½ miles to Sang chema stream where after some clearing a camp could be made (5½ miles). Thence 2½ miles through forest mostly down hill to Nyuksang (8 miles.) There is a large sandy clearing where a regiment could camp, just beyond which is an overhanging rock which would shelter ten men. Water from a small stream; no supplies. The road crosses several cliffs by notched logs.
5	SENGEDZONG .. (8550').	7½	41	Rise steeply 600 feet in ¾ mile to the Nyuksang La then the road is mostly flat for 1½ mile to the Silung stream (C. G.) Road is then rough up hill for 1 mile to a spur the Bongsang La after which it is

ROUTE No. 15—contd.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
				flat but very rough for $1\frac{1}{2}$ mile when it comes out onto the boulders in the bed of the Tsangpo; for $\frac{1}{2}$ mile the road goes over the boulders when Gadza Oma stream is reached ($5\frac{1}{2}$ miles). In summer when the river is high the road climbs along cliffs through the forest above and is very difficult. Gadza Oma stream may be unfordable owing to the force of the current but is easily bridged. From the stream the road goes over boulders for a few hundred yards (in summer along cliffs in the forest), after which it rises up the hillside and continues along it being rough and difficult to Sengedzong an overhanging rock near which is some flat ground which would have to be cleared for a Camp. Water is from a small stream down the hill. Several notched logs are crossed on this day's march.
6	PEMAKÖCHUNG (8,807').	8	49	The road is rough through thick jungle for $\frac{3}{4}$ mile down to the boulders in the river bed the road is then very bad over the boulders for $\frac{1}{2}$ mile. (In August and September this part of the road is impassable but it is said to be possible to avoid the river bed by crossing a high spur but there is no road.) The road is then bad rough and hilly through thick forest to mile 7 when a road branches off to the left which leads to the Tsangpo falls $\frac{1}{2}$ mile distant and 400 feet lower; from mile 7 the road is good for 1 mile into Pemaköchung. There is a <i>Gompa</i> of 5 monks and one house here. No supplies except a little <i>tsampa</i> , which would have to be taken by force from the monks. There are numbers of cattle. Camping ground near <i>Gompa</i> . Water from a marsh or better from a stream $\frac{1}{2}$ mile to the south.
7	CAMP	7	56	$1\frac{1}{2}$ miles marshy in places to a graziers hut called Siti at the bank of the unfordable Sanglung stream about 30 feet wide, which must be bridged. The road is then very difficult over steep rocks down the bank of the Tsangpo for $5\frac{1}{2}$ miles, when an unfordable stream 15 yards wide is reached, which must be bridged. There is no camping ground, but men could bivouac scattered about in the forest. At miles 3 and $6\frac{1}{2}$ there are specially difficult cliffs which require ladders. It is also possible to go from Siti up the Sanglung some two miles to where the stream issues from a glacier, cross the glacier and climb the ridge 2,500 feet higher than Pemaköchung and crossing it descend steeply to camp.
8	CHURUNG CHU	5	61	The road is bad through jungle 300 to 400 feet above the Tsangpo. At the 3rd mile the road goes over boulders on the hill side and, where it enters the forest again, the track is very difficult to find. One mile further the road rises 500 feet over a spur and drops into the bed of the unfordable Churung Chu at the 5th mile. The camp is on the boulders in the bed of the stream about one mile above its confluence with the Tsangpo.
9	SANDY CAMP	5	66	Cross Churung Chu by a fallen tree and go $\frac{1}{2}$ mile down the right bank, then turn down the right bank of the Tsangpo. Road bad through jungle and difficult to find; after climbing steeply 500 feet the road drops to a large flat camp on sand on the bank of the Tsangpo, 5 miles. ■
10	CAMP			From camp the road goes for 1 mile over boulders in the river bed crossing one fordable stream; it then rises steeply past a waterfall, two streams being forded knee deep. (Up this second stream a

ROUTE No. 15—*concl'd.*

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
11	PAYÜ			road leads to Luku village on the Tsangpo in two days.) Road after crossing the second stream goes along the steep hillside a thousand feet above the water passing some nasty cliffs and one on which ropes are necessary. It then continues along cliffs after which it climbs about 1,500 feet to a pass. From here it is $\frac{1}{2}$ day's march to a camp where there is water and then one day's march to Payü village.

Route No. 16.

GYALA (9,300,' ROUTE 15, STAGE 2) TO TSETANG.

270 miles.

24 stages.

Epitome.—Except for half of the first march near Gyala this is a good pony road. The road generally speaking is up the Tsangpo valley. The road leaves the river twice once for 1 day's march between Ngo (stage 15) and Nang Dzong (stage 16). A bad coolie track goes up the river bed between these two places. Again at Dzama village passed on the 20th day the road leaves the Tsangpo valley until it rejoins it at Rongchakar (stage 23). There is also a bad coolie road up the section of the river which is left during these three days, but it is only passable in winter. There are roads up both banks of the Tsangpo, but the road described is said to be the best. By this road the river is crossed to the left bank by a rope bridge or ferry at Gyala and by ferries at Tü (stage 10) to the right bank, at Lu (stage 17) to the left bank, and at Tromda (stage 18) to the right bank. Troops marching would do better to remain on the right bank the whole way as ferries would delay a large force. Supplies and transport animals are available everywhere. The transport animals are ponies, mules, bullocks and donkeys. The bullocks travel very slowly. There are several ferries over the Tsangpo and it would be possible to get skin coracles in most of the villages. With one or two exceptions, which are noted, there are good camping grounds everywhere and a camp could always be made at any village. Fuel and water and grazing in summer are everywhere obtainable. In the early stages, as far as Shu (stage 14) roads lead over the passes from the Lopa country in the south into the Tsangpo valley. These passes are only open in autumn.

No. of Stage.	Name of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	TAMLING (10,000')	14	14	From Gyala Dzong the road goes down $\frac{3}{4}$ mile to a rope bridge over the Tsangpo. The bridge consists of a single rope of twisted bamboo bark; the span is 150 yards; the anchorage on the left bank is higher than that on the right and the pull up very difficult; three men each with a light load crossed in 1 hour (crossing from the left bank to the right would be quicker). Ropes and saddles for crossing can be got at the Dzong on the right bank or <i>Gompa</i> on the left. There is a ferry boat in winter. From the bridge go $\frac{1}{2}$ mile to Gyala Gompa, 2 houses. From Gyala Gompa a coolie road goes 1 day's march down the left bank of the Tsangpo to Sengdam. From Gyala Gompa the road goes for 4 miles through jungle to Lamo stream; then 2 miles on to a flat terrace reached after a stiff climb (7 miles). Then 2 miles, latterly down hill, to a single house called Tru bc. Then, passing the house and temple of Tombalung, the road reaches the fordable Tang La Chu, 25 feet wide ($10\frac{1}{2}$ miles). Thence 3 miles through jungle with a stiff climb onto Tamling plateau; then $\frac{1}{2}$ mile flat to Tamling village, 5 houses, and good camping ground. Supplies of <i>tsampa</i> , sheep, etc.
2	MÖNLAM (9,700')	14	28	After going a short distance along Tamling terrace the road reaches the steep hillside, along which it goes and is hilly and rocky. At 6 miles Susum (4 houses) is reached; thence 3 miles to Timpa on the bank of the river, where the road <i>viâ</i> the Nyima La joins (see Route 8, stage 24). Thence 5 miles on to Mönlam over a stony and narrow road overhanging the river. There are 2 houses and a good camp up stream of the village.

ROUTE NO. 16—*contd.*

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
3	SANG	8	36	The road is steep and rocky in places. No houses are passed. There are fields and 10 houses at Sang. From here a road leads to Tumbatse (Route 8, stage 23), long day <i>via</i> the Sang La.
4	DZENG (9,500').	10	46	On leaving Sang the road rises steeply 500 feet over a sand dune and continues at this height above the water; 4 miles from Sang is a single house and a small <i>Gompa</i> called Kong mo, where the road descends to the river level. 6 miles further after passing a narrow stony part of the road Dzeng is reached (4 houses), a good camping ground on grass under willows. Tamnyen ferry with one wooden boat is about 2 miles above Sang. The <i>Gompa</i> of Temo with 250 monks is situated 2 miles to the N. E. of Dzeng. A road from here leads to Tumbatse (Route 8, stage 23) <i>via</i> the Temo La, 1 long day's march, which is the main road from Lunang, and Po me into the Tsangpo valley. The Temo La is never closed as the traffic keeps a road open over the snow.
5	LUTING	8½	54½	The road is good and flat the whole way with the exception of a narrow rocky section between the 6th and 7th miles. There is a ferry at the 6th mile opposite Tokar village on the right bank of the river. Six villages are passed where supplies could be obtained. Luting village of 6 houses is near the junction of the Gyamda Chu and Tsangpo; camp anywhere.
6	TSELA DZONG (9700').	3½	58	The road goes along the hillside up the left bank of the Gyamda Chu for 1½ miles to Chukor village; from here leather boats must be obtained and carried half a mile up stream crossing a branch of the Gyamda Chu by a trestle bridge, 250 feet span. Cross and march 1½ miles down the right bank of Gyamda Chu to Tsela Dzong. Boats are of hides stretched on willow frames 7 feet×4 feet and hold 4 or 5 men each and two maunds of baggage besides the boatman. About 30 boats could be collected in the vicinity. If the boats are not required again for crossing it is better to float 1½ miles down the Gyamda Chu instead of crossing at the ferry. Tsela is a small village with a large house the residence of the Dzongpön.
7	DOWOKA 9,600').	8½	66½	The road is good except for a narrow rocky bit for ¼ a mile near the 5th mile. ½ mile from Tsela is Karma village and 2 miles further Trongsapu; 2 miles further (4½ miles) cross a fordable stream 15 feet wide the Gyara ka Chu near which is the single house called Potsa. About 5½ miles from Tsela there is a ferry opposite the village of Tanga on the right bank of the Tsangpo. At 7½ miles is Sesu village and one mile further Dowoka one large house and several smaller ones. Usual supplies, water from stream, camp anywhere.
8	LUTÖ (9550').	15	81½	Road good the whole way; 1 mile from Dowoka cross the fordable Dowoka Chu by a bridge 15 feet span. At 4½ miles is a single house Kong mi and 1 mile further the village of Tse where transport is changed; one mile from Tse on the bank of the Tsangpo but off the road is Savü village of 5 houses. At mile 8 several fordable streams coming from Gombo nullah are crossed. At mile 9½ pass the village of Langang (2 houses). At mile 15 after passing through a wood of fir trees Lutö village (4 houses), is reached. Camp in a willow grove. Water from a small stream passed just before reaching the village, usual supplies.

ROUTE No. 16—*contd.*

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
9	KANGSAR (9,850').	15	96½	Road good except for a narrow rocky place at the 5th mile. About 1 mile from Lutö the villages of Lung-taka (1 house) and Shoteng (3 houses) are passed. At 7½ miles the road goes for 1 mile up the Sungkar pu Chu and reaches Trashi Rapden Gumpa where there are 130 monks and where supplies could be obtained. Just beyond the <i>Gumpa</i> the fordable Sungkar pu Chu is crossed by a bridge 25 foot span and the road goes down its right bank 1 mile to a single house called Chanda. At mile 14 pass Lu nga village (6 houses) in two parts and 1 mile further reach Kangsar, a single large house. Camp anywhere. In winter a short cut goes along the bank of the Tsangpo fording the Sungkar pu Chu near the junction shortening the road by one mile.
10	Tü (9950').	7½	104	After going 1¾ miles Sengpo village (1 house) is reached and 1¾ miles further is Tranda (4 houses). Tü is 4½ miles further; a village of 6 houses and a small Dzong, the residence of a minor official. The road between Tranda and Tü is bad, near the 5th mile it rises 500 feet above the river and is narrow and rocky. Camp anywhere, water from a small stream. There is a ferry at Tü.
11	ГАСПА (10,200').	10½	114½	¼ mile down to the ferry where there is a boat made of two dugouts tied abreast. This holds 4 ponies, 6 men together with 10 maunds of baggage and takes about 10 minutes to cross. From the right bank of the Tsangpo the road is for 3 miles over sand and through scrub jungle to a fordable stream, the Trop Chu, crossed by a 15-foot bridge. There is one house at the bridge. Thence 1½ mile to Gyapang village (1 house 5 miles). Four miles further along a road in parts narrow and rocky to Chuker village (3 houses) on the bank of Sharcho stream, which is crossed by a 25-foot bridge and is fordable. Then 1½ miles to Gacha a large village of 5 houses on the left bank of a fordable stream, on the right bank of the stream is Orong (5 houses), both Orong and Gacha being the residences of small officials. Camp by the stream.
12	CAMP opposite Tro me (10,950').	12	126½	The road is good for 1½ miles, when it rises over wooden galleries and is narrow and rocky for ½ mile. At the 3rd mile Me village (6 houses) is reached, where transport is changed. Then 1½ miles to Trinto stream (fordable), up which roads lead to Kyimdong (stage 14) and the Lilung valley (Route 20). Thence ½ mile to Sampe (2 houses), where transport is changed. Then 7 miles, passing no villages, along a good road to a small camp for 2 companies opposite Tro me village (8 houses) which is on the left bank of the Tsangpo, water from the Tsangpo, a few supplies and transport ponies can be obtained in Tro me and brought across the river in skin boats. Transport animals have their legs tied together and are thrown in the bottom of the boats as their hoofs would go through the leather. There are roads from Tro me to the Gyalam. See Routes 23 and 24. The Chinese troops used Route 24.
13	KAMCHANG (10,150').	13½	140	Road is good through thin jungle for 4 miles, when Changdong village (3 houses) on the opposite (left) bank of the river is passed. Here transport is changed, the animals being brought across the river in skin boats. For 1½ miles more the road is good, when a difficult narrow rocky place is reached with wooden galleries for ½ mile. Then 1½ miles to Rishö village (4 houses), where transport is again changed (7½ miles). Thence 2 miles, passing some galleries to Tselba stream. One mile further is a single house called Cha ke (10½ miles). Thence 3 miles with some narrow places to Kamchang, 4 houses, water from a small stream, camp anywhere. Usual supplies.

ROUTE No. 16—concl'd.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
14	SHU bridge (10,400').	9½	149½	The road is good for 1½ miles to Rip village (2 houses), after which it is rougher and narrow in places for 1½ miles to a small stream which forms the boundary between Kongbo and Takpo provinces. Then 6 miles of fair road to a large unfordable stream, the Kyindong Chu (9 miles). The road then goes ½ mile up the right bank to a bridge 36-foot span. There is a good camping ground at the bridge on the left bank, ½ mile further up the left bank is Shu village while about 4 miles further is Kyindong Dzong, the residence of an official. In winter the Kyindong Chu can be forded near its junction with the Tsangpo and a bad road impassible for animals goes up the Tsangpo for a mile when it meets the main road. This winter road avoids a mile of detour which the main road makes to the bridge. From Shu a road (Route 25) goes to Tsari. Routes 20 and 21 lead to Lilung.
15	NGE (10,600').	10½	160	From the bridge the road climbs 300 feet along the edge of a rocky spur and then drops to the level of the Tsangpo. At 4½ miles a fordable stream, the Udzu, is crossed; 2 miles further is the Tenga Chu, unfordable crossed by a 15-foot bridge, 2 miles beyond this is Tro village (4 houses), where transport is changed, and ½ mile further the unfordable Tungkar stream is crossed by a 15-foot bridge (9 miles). There is a ferry over the Tsangpo here. On a rock above the stream is Tungkar Gampa containing 70 monks; 1½ miles further on is the scattered village of Ngo. Camp anywhere. Water from a small stream.
16	NANG DZONG	11	171	The road climbs over a spur and drops into the valley of the Driscm Chu up the left bank of which it goes to a bridge leading to right bank 2 miles from Nge. The road then goes 1½ miles up wooded nullah to a hut called Kyalo (12,600 feet). A further rise of 2,250 feet in 1½ miles leads to the summit of the Kongbo nga La 14,570 feet (5 miles). The pass is never closed though there is snow on it in winter. From the pass the road descends 1,650 feet in 1½ miles to another hut also called Kyalo, whence after a further descent of 1,800 feet in 1½ miles a single house, Chöto Shu, is reached (8 miles). From here the road is less steep for 1 mile down the right bank of the unfordable La pu chu to a 15-foot bridge where the road crosses to the left bank, then 2 miles down the left bank to a 30-foot cantilever bridge leading to the village of Nang Dzong (6 houses), on the right bank. Camp in fields; water from La pu Chu. The Dzong is on a rocky spur on the left bank of the stream. There is a road up to La pu Chu to Tsari (Route 26).
17	TRASHILING	10	181	Recross the 30-foot cantilever bridge to the left bank of the La pu Chu and go along the foot of the rocky spur on which Nang Dzong is situated. The road is bad and narrow here; it then goes over heavy sand to a ferry over the Tsangpo at Lu village (3 houses, 3 miles). There are only skin coracles, but there is a wooden boat at Nang Dzong. From Lu the road is good for 2½ miles to Dö village (4 houses), 3 miles further Tsilung (8½ miles) is reached after passing the Gampa of Pari Chöto, in which are 200 monks and below which the road is very narrow along a cliff overhanging the river. 1½ miles further after passing 3 small villages Trashiling is reached.
18	RAPDANG (10,800').	10½	191½	1½ miles passing Kundön Kangsar to Trungkang (6 houses), the birth place of the present Dalai Lama, then 1½ miles further to Lhenga (3 houses, 10,600 feet, 3 miles). Thence ½ mile good to

ROUTE No. 16—*contd.*

No. of Stage.	Name of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
				scattered village of Trong nge (4 houses). 1½ miles further a ferry of leather boats opposite Tromda is reached (5 miles). The river is crossed and Tromda village (4 houses) is reached ½ mile from the river. From Tromda a road goes up the Trulung Chu to Tsari (see route 27). From Tromda the road crosses the unfordable Trulung Chu by a wooden bridge and goes 2 miles to a spur, which is reached after a stiff climb of 300 feet; here the road is bad and narrow; 2 miles further is another similar spur and 1 mile beyond is Rapdang village (3 houses) reached after passing a nunnery called Trashi Chöling. From Rapdang a road goes to Kyekye (see Route 28). Troops marching would do better to remain on the right bank of the Tsangpo between the ferry at Lu and Tromda. The road on the right bank is not so good as that described, but a force would be delayed by the two crossings.
19	LENDA (11,000').	11	202½	The road is bad, narrow and rocky for 3½ miles to Pulong stream, which is forded knee deep; ½ mile further is the poor village of Pamda (6 houses), where transport is changed (4 miles). Then the road continues for 5 miles partly narrow and partly over heavy sand to the top of a spur; thence 2 miles to a stream in the large scattered village of Lenda (20 houses); camp anywhere. From Lenda a road goes up the Libu valley and crossing the Lu La reaches Loleu (Route 28, stage 1) in 1 day.
20	LHAPSÖ (11,650').	14	216½	6½ miles to Tökpo Tratsang a <i>Gompa</i> of 500 monks; road is narrow and rocky most of the way; ¼ mile further is a large house and village of Trumba (6 houses), where transport is changed; ¾ miles further is Dasamdong village (7½ miles), 2 miles further is a 40-foot wooden bridge over the unfordable Chisha Chu and ¼ mile beyond this is Dzam village (10 miles). Road is then up the left bank of the fordable Dzam Chu for 2½ miles, when it crosses to the right bank by a 15-foot bridge. It then goes up the right bank, 1½ miles to Lhapsö Dzong, 3 houses, the seat of an official; camp anywhere. From Dzam a bad road leads up the north bank of the Tsangpo valley to Trap (Route 32, Stage 2), four days' march. Parts of this road are under water in summer but it is possible to climb round cliffs and get through opposite Dzam the Lu-ngu-na valley joins the left bank of the Tsangpo up which a bad road leads to Öka (Route 30) in 2 or 3 days.
21	TRASO (15,400').	10½	227	The road is good for 1½ miles up the valley above the right bank, when it crosses to the left by a 15-foot bridge; ½ mile further is Pito village and 3 miles further Nunyi is reached on the right bank of the stream near a bridge 2 miles more up the right bank brings the road to Lasor village (7 miles). From here road rises steeply up a branch nullah for 3½ miles to a single hut called Traso. No supplies but grazing and firewood can be obtained.
22	LHAGYARI (13,100').	13	240	The road rises steeply 1,100 feet in 1 mile to the Putrang La (10,470 feet). The descent is more gradual, the road going down the right side of the valley. 2¾ miles from the pass is the small village of Chungkatö; 6 miles further is a <i>Gompa</i> of 30 monks and a village called Lamdrin (9¾ miles). From the pass to this point the road has been along the hillside in a narrow valley. There is also a road in the river bed used when the water is low. From Lamdrin the road goes 3 miles down the broad open valley of the Changra pu Chu, after which it descends 200 feet steeply into the river bed; ¼ mile further

ROUTE No. 16—*contd.*

No. of Stage.	Name of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
				Lhagyari is reached after crossing the fordable stream by a 15-foot bridge. The fort, palace, <i>Gompa</i> of 70 monks and village are on the plateau 200 feet above the river. Lhagyari is the residence of a local chief who owns much of the land about here. Camp in fields by the bridge. Supplies plentiful and also transport yaks and donkeys. No fuel but yak dung and a few willow trees. The Putrang La is sometimes closed in winter by snow but never for more than 2 or 3 days. From Lhagyari a road goes to Chumda Kyang (Route 33, stage 3) 2 days <i>viâ</i> the Lhalam La.
23	RONGCHAKAR .. (12,050').	16	256	The distance is estimated. The road is said to be good down the open valley of the Changra pu Chu the whole way. At Rongchakar is a Dzong the residence of a minor official under the chief of Lhagyari. There are about 40 houses and a <i>Gompa</i> . Camp anywhere. Fuel is obtainable. Kinthup gives this march as 12 miles but he consistently underestimates distances.
24	TSETANG (11,850').	14	270	The road is good the whole way; it goes up the right bank of the Tsangpo for 2 miles to Changdang, where there is a ferry of one wooden boat in summer. In winter this ferry is moved to Rongchakar; 8 miles further is Bindzi village, where the road crosses a spur; 2 miles on is Nyengo ferry (12 miles) a single house on the bank of the river. The ferry boats at Changdang and Nyengo are like those used by the expedition when crossing the Tsangpo at Chaksam, but rather smaller. Animals can be taken in them. At Nyengo the piers of an old iron chain bridge are standing. 2 miles beyond Nyengo is the town of Tsetang. The population is about 3,000. There are 2 <i>Gompas</i> of 140 and 100 monks and about 25 Kashmiri Mohamedan traders. Boats can reach Tsetang from Lhasa down stream in three days. Opposite Nyengo ferry a large valley called Yön joins the Tsangpo from the north, up which a road leads to Metro Kongkar on the Gyatam reaching it in 3 days (Route 31).

Route No. 17.

GYALA GOMPA (ROUTE 16, STAGE 1) TO LUNANG (ROUTE 8, STAGE 22) 2 STAGES.

(2 stages from local information.)

This road goes up from Gyala Gompa and crossing the Tra La 15,910 feet reaches Lunang in two days. The pass is closed by snow in winter.

Route No. 18.

TRU BE (ROUTE 16, STAGE 1) TO LUNANG (ROUTE 8, STAGE 22),

(2 stages from local information.)

This road is only used in August and September; before August there is a good deal of snow lying on the north side of the Tangla and, though it would be passable, people prefer to go *viâ* the Nyima La (Route 8, stage 23).

No. of Stage.	Name of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	TANG LATSA ..	..	..
2	LUNANG (11,050').	..	..	Cross the Tang La.

Route No. 19.

TSELA DZONG (ROUTE 16, STAGE 6) TO GYAMDA. (On the Main Lhasa-Batang road.)

(6 stages from local information.)

The road goes up the valley of the Gyamda Chu the whole way.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	CHOMO DZONG .. ..	..	..	On left bank of the Gyamda Chu, one of the 4 Dzongs of Kongbo province.
2	NYANG LU .. ..	..	..
3	DZENG .. ..	..	..
4	KARANG .. ..	..	..	A village 2 days' march from Shoga one of the 4 Dzongs of Kongbo.
5	NAPÖ .. ..	..	..	Route 14, Stage 5.
6	GYAMDA .. ..	..	..	One of the 4 Dzongs of Kongbo. A. K. visited it.

Route No. 20.

LILUNG, a village on the right bank of the Tsangpo, a few miles below Tü (ROUTE 16, STAGE 10) to KYIMDONG. DZONG (Route 16, Stage 14).

(4 stages from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	MOLO .. ..	..	..	Pass Nepar village. Camp at Molo village. From Nepar a road leads to Halung (Route 22) in 2½ days. An unloaded man travelling fast in summer can reach Halung in 1 day.
2	LANG LATSA .. ..	..	..	Camp in the forest at the foot of the Lang La.
3	TARTSA .. ..	..	..	Cross the Lang La and Camp at Taktsa village.
4	KYIMDONG DZONG .. ..	..	..

Route No. 21.

LILUNG TO KYIMDONG ANOTHER ROUTE.

(5 stages from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	MOLO	The Pa La is crossed this march.
2	SAMGAR SAMPA .. ..	..	..
3	LANGONG .. ..	..	..
4	KYIMDONG PU .. ..	..	..
5	KYIMDONG DZONG .. ..	..	..

Route No. 22.

LANGONG (ROUTE 21, STAGE 3) TO HALUNG IN THE PACHAK-
SHIRI COUNTRY.

(4 stages from local information.)

Road impassable for animals—

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate	Total.	
1	LO LATSA .. ..	..	..	Camp in the forest. No house.
2	NYUG LATSA .. ..	..	..	The Lo La, a pass on which forest grows, is crossed this march. It is never closed in winter though snow lies on it. Camp in the forest. No house.
3	KARGONG LA .. ..	..	..	The Nyug La is crossed, a pass similar to the Lo La. The Camp is on a wooded spur called the Kargong La. There is no house.
4	HALUNG .. ..	..	..	The first Pachakshiri village.

Route No. 23.

TRO ME (ROUTE 16, STAGE 12) TO Ö SE KYANG on the GYALAM.

(8 stages from local information.)

This is one of the roads leading from the Tsangpo valley to the Gyalam or Lhasa-Batang Road.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	PULUNG .. ..	..	..	The road goes down the left bank of the Tsangpo for about 6 miles, when it turns up the Pulung valley. Camp at Pulung village.
2	TATING KA .. ..	..	..	A low pass the Tating La is crossed. Camp at village.
3	DROKSA .. ..	..	..	The Tröma La is crossed.
4	PI LATSA .. ..	..	..	The Pi La is crossed and there is no house at the camping ground.
5	BA .. ..	..	..	A village of 5 houses.
6	ASHANKO LATSA .. ..	..	..	There is no house at the camp; a pass, the Naru La, is crossed.
7	RUTO GOMPA .. ..	..	..	This is on the main road to China between Tsomera and Ö Se Kyang.
8	Ö SE KYANG .. ..	..	..	Three days' march from Lhasa.

Route No. 24.

TRO ME (ROUTE 16, STAGE 12) TO BA (ROUTE 23, STAGE 5).

(4 stages from local information.)

This is another road leading north from the Tsangpo to the Gyalam. There is also a similar road from Changdrong Route 16, Stage 13 to Ba up the Changdrong Chu valley.

No. of Stage.	Name of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	TRUNE LATSA .. ..	..	..
2	YJMD KATONG .. ..	..	..	No houses. The Tro me La is crossed this march.
3	BA .. ..	..	..	Village of 5 houses, the Pi La is crossed this march. (See Route 23, Stage 5.)

Route No. 25.

SHU (ROUTE 16, STAGE 14) TO (TSARI) CHIKCHAR (ROUTE 33, STAGE 11).

(4 stages from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	KONGIDEM .. ..	..	..	The road goes up the Kyindong valley.
2	BIMBI LATSÄ .. ..	..	..	Camp at the foot of the Bimbi La. No house.
3	Camp .. ..	..	..	Cross Bimbi La.
4	CHIKCHAR .. ..	..	..	The road joins Tsari Chu valley at Pödzo Sumdo (see Route 33, stage 12).

Route No. 26.

NANG DZONG (ROUTE 16, STAGE 16) TO (TSARI) CHÖSAM (ROUTE 33, STAGE 10).

(2 stages from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	SUR LATSÄ .. ..	..	..	The road goes up the La pu Chu, 3 miles to Chöte Shu (Route 16, stage 16). It then continues up the La pu valley to a camp where there is no house at the foot of the Sur La.
2	CHÖSAM .. ..	..	..	The Sur La is crossed; the road comes into the Tsari valley just below the Chösam. The road is said to be passable for yaks, but impassable for horses. The Sur La is never closed.

Route No. 27.

TROMDA (ROUTE 16, STAGE 18) TO DEM (ROUTE 33, STAGE 7).

*About 10 miles.**1 stage.*

The road goes 4 miles up the right bank of the Trulung Chu to Ganden Rapden, a *Gompa* of 130 monks in a large village. Öle village is passed 2½ miles from Tromda. About 3 miles further is Guru Namgye Dzong, the residence of the local official. Dem is about 3 miles further 10 miles. From Dem roads go to Tsari (see Route 33) and to Kyekye mä Lhakong plain (Route 33, stages 5 and 6).

Route No. 28.

RAPDANG (ROUTE 16, STAGE 18) TO KYE KYE (ROUTE 33, STAGE 5).

(3 stages from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	LOLEN .. ..	..	..	The road leaves the Tsangpo valley and goes up the Pulung valley some distance, when it crosses a pass, the Se on La, and reaches Lolen village.
2	TRAMTRI .. ..	..	..	The road is up stream all day. Tramtri is a nunnery of 30 nuns. (See Route 42, stage 3.)
3	KYE KYE .. ..	..	..	The Shamo La is crossed.

Route No. 29.

LHENGGA (ROUTE 16, STAGE 18) TO GYAMDA ON THE GYALAM.

(7 stages from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	TAKSHÖ .. ..	..	..	The road goes up the left bank of Tsangpo and turns north up the Chubu Chu.
2	TRA KARPO .. ..	..	..	Camp in village.
3	NYE .. ..	..	..	Camp in village.
4	BA .. ..	..	..	Camp in village.
5	SHO LA .. ..	..	..	Camp in village.
6	SESANG GOMPA .. ..	..	..	Cross Sho La.
7	GYAMDA .. ..	..	..	See A. K's reports.

Route No. 30.

LHENGGA (ROUTE 16, STAGE 18) TO ÖKA DZONG.

(5 stages from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	GYATSA DZONG .. ..	..	..	The road is up the left bank of the Tsungpo.
2	TSEGYU .. ..	..	..	Village.
3	CHÖKORGYE .. ..	..	..	A large <i>Gompa</i> with about 500 monks.
4	PENDE GOMPA .. ..	..	..	Cross the Gyelung La.
5	ÖKA DZONG .. ..	..	..	250 houses according to A. K., who calls this place Hoka.

Route No. 31.

NEYNGO FERRY (ROUTE 16, STAGE 24) TO METRO KONGKAR ON THE GYALAM.

(3 stages from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	TINA .. ..	..	..
0	METO SHIBU .. ..	..	..
3	METRO KONGKAR .. ..	..	..	A. K's Medu Kongkar Dzong.

Route No. 32.

LHAGYARI (13,100') (ROUTE 16, STAGE 22) TO RONG CHAKAR (ROUTE 16, STAGE 23)

via TRAP ON THE TSANGPO.

31½ miles.

3 stages.

Epitome.—This is a little used road as the villages near Trap are small and poor. The descent to Trap is bad and very steep and ponies are not used on it.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	KONGBO (14,100').	6	6	The road rises 200 feet steeply out of the valley on to the broad plateau over which it goes for 2 miles to the Sagar Chu which is reached after a steep descent of 100 feet. From the stream the road ascends gradually 1,000 feet in 2 miles to the summit of the Kampa La, 14,300 feet (4 miles). Thence descend 2 miles to Kongbo, several villages in a well-cultivated valley. Camp in fields, water from the stream, no fuel but yak dung and a few small bushes.
2	TRAP (12,100).	9½	15½	The road rises for 5 miles on a good gradient to the Nyerma La (13,600 feet). It then descends 1,000 feet in 2 miles to Lap village (8 houses) after which is a bad steep descent of 2,300 feet in 2½ miles to Trap, 12 scattered houses 300 feet above the Tsangpo. Fuel is obtainable. Opposite Trap on the north bank of the river is Tsangha village at the mouth of the Öka Chu. Up an eastern branch of the stream a road leads to Öka Dzong (Route 30). Up a western branch passing Lilung village and crossing the Mabung La a road leads to Metro Kongkar on the Gyalam (Route 31). A road goes from Lilung over the Kata La to Sangri, opposite Rongchakar. A bad road goes down the north bank of the Tsangpo, reaching Dram, (Route 16, stage 20,) in four days. It is only passable in winter.
3	RONGCHAKAR ..	16	31½	The road is rough and narrow along the steep hillside for 1 mile, after which it improves, 7 miles from Trap is the village of Tomba, consisting of 6 scattered houses, where transport is changed; 2 miles further is Tsa, a larger village. From here the road is good for 1½ miles, after which for 1½ miles it is bad and narrow. Rongchakar is 4 miles further, the road being on the whole good with some narrow places. The stream which flows from Lhagyari is forded at Rongchakar more than knee deep. There is a bridge ¼ mile upstream, the road by which is about 1½ miles longer.

Route No. 33.

TSETANG (11,850') TO MIGYITÜN (9,630') via DEM (ROUTE 27) AND TSARI.

138 miles.

12 stages.

Epitome.—The road starts up the Yarlung valley, the lower part of which is well cultivated. At the Yartö Tra La it enters a high plateau, where there is practically no vegetation and remains in this kind of country until the villages near Dem are reached where the altitude is lower and good crops are grown. Up to this point the country is typically dry in appearance. At the Kongmo La the Tsari valley is entered which is very wet with forest which commences near Chösam and continues down the rest of the road. In the Tsari valley no crops are grown above Migyitün for religious reasons, though the soil should be productive. There is much snow round Tsari in winter and the passes are closed.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	HALAKANG (12,400').	10	10	The road is good the whole way up the Yarlung valley; 1½ miles from Tsetang is Netong Dzong, a town as large as Tsetang, and the residence of the local official. Thence 6 miles to Lharu another smaller town; 2½ miles further the small village of Halakang is

ROUTE No. 33—contd.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
2	RAMONANG (13,853').	12	22	<p>reached, after passing the large village of Potrang; fuel is obtainable and supplies plentiful. About 4 miles from Tsetang a large valley comes in from the south-west, up which a road goes to Trigu Dzong <i>via</i> Chongye (Route 34).</p> <p>The road continues up the valley the whole day, 1 mile from Halakang the Datang nullah comes in from the east, up which is a road to Lhagyari in 2 days (Route 35). 2½ miles further is Changdri village, where transport is changed. 2½ miles further is Bartang, another change (6 miles). 1 mile further is Namashung, where the road crosses the fordable stream to the left bank by a wooden bridge. From here a road goes west to Chongye <i>via</i> the Nang La in 1 day. 1½ miles beyond Namashung is Ko me (8½ miles). From here a road goes east up the Tri nullah 2 days to Lhagyari, crossing a pass. The camp on this route is at a village. 1½ miles beyond Ko me is the <i>Gompa</i> of Dagyelung with 100 monks and ½ mile further is Shöpar (10½ miles). From here a road leads up a valley south-west to Trigu Dzong in two days <i>via</i> the Yaksang La; the camp on this route is in the open, there being no village. A mounted man can cover the distance in 1 day. Ramonang is 1½ miles beyond Shöpar. A poor village; brushwood fuel obtainable.</p>
3	CHUMDA KYANG (12,650')	13	35	<p>The road goes 3 miles up the valley to Lilung gang village, where transport yaks can be obtained. Thence 3½ miles of steep ascent to a spur which forms one summit of the pass. Then 2 miles of fairly level road to the summit of the Yartö Tra La, 16,700 feet (8½ miles) just before reaching the pass Dalatang resthouse is passed. From the pass the road descends by steep zigzags for about 3 miles, after which it is nearly level over the plain for 1½ miles to Chumda Kyang, a small village where crops of barley are grown. There are numbers of yaks, sheep and goats in the neighbourhood and several other small villages, but supplies are scanty. Water from a large stream flowing past the village; yak-dung is the only fuel. From a point a short distance below the Yartö Tra La the road goes <i>via</i> the Karkang La to Tsöna which was reported on by Nain Singh. The country is very open and there are roads everywhere. Lhagyari is reached in 2 days <i>via</i> the Lhalam La. There is a road to Lhüntse. (See Route 53.)</p>
4	TRATSANG (15,000').	10	45	<p>The road is narrow and stony but without any steep gradients; ½ mile after leaving Chumda Kyang the stream which flows past the village is forded and the road climbs up above the right bank of the stream and goes some 500 feet above the water. There is also a track up the bed of the stream, but it is impassable for animals, 4 miles from Chumda Kyang a spur the Siri La is crossed. 2½ miles further the valley turns sharply to the right (south) and is here very narrow but gradually opens out again. At Tratsang there are a few huts; yak dung is the only fuel here, though about 3 miles before reaching Tratsang some scrub jungle could be cut. No supplies. There is a quantity of aconite in the road.</p>
5	KYEKYE (14,600').	12	57	<p>After going 3½ miles up the valley the Pu La (15,190 feet) is reached. From the pass the road is stony down the right side of the valley for 5 miles when the stream is forded and Dzongshö village of 3 houses, is reached (8½ miles). No supplies except yaks, sheep and goats. From the village the road rises 700 feet in 1 mile to the Jatang La, a spur, and is then flat for 1 mile, after which it descends 700 feet</p>

ROUTE No. 33—*contd.*

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
				in 1½ miles to a stream and is very rough and stony, ¼ mile further is Kyekye; 2 houses; no supplies. Fuel is yak-dung. Kyekye is at the western end of the broad open plain of Lhakong. Roads lead from here in many directions. Karpo tö (Route 41, stage 2) can be reached in 1 day, this being the most direct route to Sanga Chöling. Another road goes down the stream to Sanga Chöling (Route 36, stage 4).
6	Camp at foot of PURAM LA.	15	72	The road is flat over the Lhakong plain. The distance is estimated.
7	DEM	15	87	See Route 27. The Puram La is crossed, and Lilung, a large village, is passed. The Trulung valley is reached at Pumkar 6 miles above Dem (4 houses, Route 42, stage 3). The distances of these last two stages are estimated as the route was not traversed. From Dem a road goes down stream the Tromda on the Tsangpo (Route 27). A road also goes south <i>viâ</i> the Ra La to Karpo, 1 day (Route 41, Stage 2) and there are several roads into Lhakong plain (see Route 42).
8	TRUPCHUKA .. (14,950').	8	95	Half a mile from Dem the road crosses the fordable stream by a wooden bridge and goes up the hillside, finally going up stream above the left bank of the stream which comes from the Kongmo La. 3 miles from Dem is Bumda Sebum village. Thence 1½ miles up stream when the road turns up a side valley, 3½ miles up which is Trupchuka, a poor village of 4 houses, one of which is a rest-house for travellers. Fuel is plentiful but no supplies.
9	CHORTEN NAMU ..	11	106	The road goes 6 miles up the valley to the Kongmo La, 17,520 feet. The road is stony on a good gradient except for the last 500 feet, which are very steep. From the pass there is a very steep descent of 700 feet, after which the gradient is better. 5 miles from the pass the stream from the Kongmo La joins the main Tsari Chu valley, the junction being called Chorten Namu. No houses, supplies or fuel. The first fuel is found about 4 miles down the Tsari Chu. From here roads go to Sanga Chöling <i>viâ</i> the Cha La (Route 37) and to Karpo (Route 41) two roads <i>viâ</i> the Trondong La and the Trorang La.
10	SENGUTI plain ..	11	117	The road is for 6 miles down the left side of the valley rough and stony and bad for animals to Chösam (14,200 feet); 6 houses and scanty supplies, but no crops. After the 4th mile fuel is reached and below Chösam fir forest commences. At Chösam a road comes in from Nang Dzong on the Tsangpo (Route 26). There is also a road from Chösam to Yüme (Route 44, stage 4) <i>viâ</i> the Rip La, 2 days. From Chösam the road continues down the valley about 500 feet above the water when, after a steep drop, it reaches an open marshy plain surrounded by forest. Camp near the hills where ground is dryer; fuel and good grazing, but no supplies. Numbers of ponies are sent to graze here in the summer from the surrounding districts.
11	YARAP	9	126	The road goes for 2½ miles along the edge of the marshy plain, where it is stony and muddy, to Totsen village, 4 houses. From here a road goes over the Dorje Trak La to Chakta Trang, one of the rest-houses on the Tsari pilgrimage, 1 day's journey (Route 44, stage 4). From Totsen the road continues for 6½ miles down the left bank of the stream to Yarap, 2 houses. The unfordable stream is here crossed by a 75 foot bridge on two stone piers and there is a good camping ground on the right bank. No supplies; but fuel and grazing. The large village

ROUTE No. 33—concl'd.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
12	MIGYITÜN (9,630').	12	138	<p>of Chikchar (12,700 feet) is $1\frac{1}{2}$ miles off up a side valley. Small supplies could be obtained here but there are no crops. From Chikchar the road round the Tsari pilgrimage starts (Route 44).</p> <p>The road is bad, stony and muddy the whole way through forest. It goes $1\frac{1}{2}$ miles down the right bank of the Tsari Chu when, after crossing the small Chikchar Chu, the main river is crossed to the left bank by a bridge in 3 spans (total length 75 feet). There are a few houses here on the left bank. 2 miles down the left bank a large fordable stream is crossed by a bridge. 3 miles further is a single house called Pödzo Sumdo ($6\frac{1}{2}$ miles). From here a road goes to Shu on the Tsangpo <i>via</i> the Bimbi La, 4 days (Route 25). From the Bimbi La a road goes to Langong and thence to the Pachakshiri country (see Route 22). At Pödzo Sumdo a large fordable stream is crossed by a bridge and $\frac{1}{2}$ mile further is another similar stream, $1\frac{1}{2}$ miles, further a wooden bridge is 2 spans 24 and 32 feet crosses the river to the right bank ($8\frac{1}{2}$ miles). $1\frac{1}{2}$ miles further the river is again crossed to the left bank by a wooden bridge (42-foot span). $2\frac{1}{2}$ miles further the valley opens out and there are about 20 scattered houses called Migyitün. The river is crossed to the right bank by a 50-foot bridge, and there is a good camping ground near the bridge. Supplies of <i>tsampa</i> and flour can be obtained, also a few potatoes.</p> <p>There is a road down the valley up which Lopas come to trade. Their first village is said to be 6 days' march from here. The road goes for 4 miles down the left bank over ladders and notched logs when it crosses to the right bank. Beyond this point it is only passable in winter as the bridge is washed away in summer. The long Tsari pilgrimage, which is performed every 12 years, goes down this valley, the road being prepared at the time of the pilgrimage. The pilgrims go 5 days down this valley when they turn up the combined waters of the Char and Chayul. They eventually arrive at Yü me (Route 44, stage 4) or Sanga Chöling.</p>

Route. No. 34.

TSETANG to TRIGU DZONG, *via* CHONGYE.

(3 stages from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	CHONGYE .. ..	..	..	The first 4 miles are on Route 33.
2	CAMP .. ..	..	..	Cross the Sangmo La or Cheya La (?).
3	TRIGU DZONG .. ..	..	..	On the bank of the Trigu Tso.

Route No. 35.

ALAKANG, 12,400' (ROUTE 33, STAGE 1) TO LHAGYARI (ROUTE 16, STAGE 22).

(2 stages from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	TRAKAR .. ..	..	..	The road goes up the Datang nullah, which comes in from the east 1 mile from Halakang. At the head of the nullah the Trakar La is crossed.
2	LHAGYARI (13,100')	..	..	....

Route No. 36.

KYE KYE (14,600') TO LUNG, down the CHAR CHU.

75½ miles.

6 stages.

Epitome.—This road follows the Char valley with the exception of a detour on parts of the 2nd and 3rd stages to avoid a gorge. The Char Chu is fordable as far down as the Chegun confluence (stage 3), below which it is unfordable. The country is wooded below Shirap except near Sangachöling where it is drier. Lung is a place to which Lepas come at certain times of the year to trade. Supplies can be obtained where there are villages. The road is passable for animals except the last 6½ miles. The Char Chu is a branch of the Subansiri.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	PUNDRO (14,000').	13	..	From camp the road descends ¼ mile to the Lhakong to Chu which is fordable but crossed by a wooden bridge, it then rises steeply and goes south down the valley some 300 feet above the left bank of the river; 6 miles from Kyekye is Charap, a village of 4 houses on both banks of the stream. From here there is a descent of half a mile to a rickety wooden bridge over the stream (animals have to ford). The road is then down the valley above the right bank, narrow and stony for 6½ miles to Pundro (3 houses). A little brushwood and yak-dung fuel. From here a road goes to Shobo Shar (Route 53), 1 day's march.
2	SHIRAP (14,000').	13½	26½	Descend ¼ mile steeply to the Char Chu, which is crossed by a knee deep ford where it bends sharply to the east. The road then goes down the valley above the left bank, passing several villages including Tengechung (3 houses), 3½ miles from Pundro; 1¼ miles further is a wooden bridge across the river at Yakshi village (5 miles). From Yakshi a road goes to Lhöntse Dzong, 2 days' march (Route 37). The road does not cross the river but leaves the valley climbing 650 feet in 1½ miles to the Tsigu La from where there is a further ascent of 1,000 feet in 1½ miles to the Gyemo La (14,900 feet, 8 miles). From the pass the road descends 1½ miles to Shösar village, ½ mile beyond which is Shamda. From Shamda a road goes to Lhakong plain in 1 day, crossing the Gyen La. From Lhakong there are roads to Kyekye (Route 33, stage 5) Tromda on the Tsangpo (Route 16, stage 18) and Karpo (Route 41, stage 1). 3½ miles down the valley from Shamda is Shirap a small and poor village up a side valley; a little barley could be obtained; also brushwood for fuel. From Shirap a road goes to Karpo in 2 days (Route 39).

ROUTE No. 36—contd.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
3	BUNG (12,000').	15	41½	The road is down the Chogun valley 400 feet above the left bank for 3 miles to its junction with the Char valley. This part of the road is narrow and stony. The road continues down the Char Chu and is slightly better. 2½ miles from the junction is a 40-foot cantilever bridge leading to the right bank, the river being unfordable. The road does not cross but continues down the left bank for 1 mile to Roshö village (6½ miles); 5 miles further is Shö Shika, a large village. 2 miles further near a large <i>Chorten</i> where a strong cantilever bridge leads to the right bank the road goes <i>via</i> the Mo La to Lhöntso Dzong in 2 days (Route 45) 1½ miles beyond the <i>chorten</i> is Bung, a large house in a village with cultivation in flat terraces. Fuel plentiful. There are fir trees here.
4	SANGA CHÖLING (10,900').	12	53½	The road goes for 4 miles down the valley to a point where a road goes off up the Karpo Chu to Karpo (Route 41). The road continues down the Char Chu about 8 miles to Sanga Chöling. The road from the Karpo Chu to Sanga Chöling was not traversed. There is a large village here and an important <i>gompa</i> with 100 monks who own the surrounding country. Supplies plentiful. A valley comes in from the north up which a road leads to Tsari (Route 37). The direct road from Sanga Chöling to Lhasa is <i>via</i> Karpo, Kyekeye and Tsetang (Routes 41 and 33).
5	CHAR ME (10,600').	10½	64	On leaving Sanga Chöling the road crosses the fordable Kyü Chu by a wooden bridge. 3 miles down the valley is Tangor village of 4 or 5 houses, 5 miles further is Chingkar (1 house, 8 miles) just below which the road crosses to the right bank of the Char Chu by a 50-foot cantilever bridge. From here the road goes 2½ miles down the right bank to Char me, 4 houses. The Kyim pu Chu (unfordable) is crossed by a bridge in Char me village. A road leads up the Kyim pu Chu into the Chayul valley (Route 45).
6	LUNG	11½	75½	The road goes 2½ miles down the right bank of the Char Chu to Dayü village (2 houses). Thence 2 miles to Drü (1 house). Up to this point the road is passable for animals, below this it is not. The road descends 700 feet to the river which is crossed by a rickety wooden bridge, and goes down the left bank for 1 mile to the ruins of Raprang (5½ miles) which has been destroyed by the Lepas. Here the river turns sharply south and drops very steeply. 3 miles further the road rises almost precipitously 1,300 feet in ½ mile and 1 mile further is the junction of the Char and Chayul rivers, (9½ miles). About 1½ miles further is Lung a place where Lepas sometimes live in rough huts. Only 8½ miles of the road were traversed.
				Four short marches below Lung is the junction of the river with that from Yü me (Route 44, stage 4) and 8 or 10 days further is the junction with the Tsari Chu. This road is impassable except every twelfth year (1920, 1932, etc), when it is repaired and bridges made for pilgrims who use it.

Route No. 37.

CHORTEN NAMU (ROUTE 33, STAGE 9) TO SANGA CHÖLING (ROUTE 36, STAGE 4.)

(Reported by Captain Morshead.)

17 miles.

2 stages.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	CAMP	8	8	The road goes 4½ miles up on a good gradient to the Cha La, 16,600 feet. Then 3½ miles very steep descent to the junction of two streams where there is a good camping ground. No houses and no supplies or fuel.
2	SANGA CHÖLING (10,900'.)	9	17	The road goes 2 miles down the valley on a good gradient to the point at which the road <i>via</i> the Takar La joins (Route 44, stage 5). There are small bushes here which could be used as fuel; 3 miles further the stream is crossed to the left bank by a bridge 1½ miles further (6½ miles) the river is again crossed to the right bank by a wooden bridge just below which is the small village of Kyü. Thence 2½ miles to Sanga Chöling crossing the river twice by bridges. The river is in a narrow gorge near Sanga Chöling. It is always fordable.

Route No. 33.

YAKSHI (ROUTE 36, STAGE 2) TO LHÖNTSE DZONG (ROUTE 49, STAGE 1.)

(2 stages from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	YESA CHU .. ..	..	..	Two passes the Se La, and Kyanglung La are crossed. There is no village at the camp which is by the Yesa Chu.
2	LHÖNTSE (13,100'.)	..	..	The road crosses the Nyanga La. At Lhöntse here is a Dzong and a large village in an open valley.

Route No. 39.

SHIRAP (ROUTE 36, STAGE 2) TO KARPO (ROUTE 41, STAGE 1.)

(2 stages from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	CAMP IN THE OPEN .. ..	..	..	The Traken La is crossed this march.
2	KARPO (12,100'.)	..	..	Several houses.

Route No. 40.

SHÖ SHIKA (ROUTE 36, STAGE 3) TO KYEKYE (ROUTE 33, STAGE 5.)

(2 stages from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	Camp on Lhakong plain.	..	..	The road is bad and crosses the Kalung La.
2	KYEKYE (14,600')	..	..	The road is down the open valley and is good.

Route No. 41.

BUNG (ROUTE 36, STAGE 3) TO KYEKYE (ROUTE 33, STAGE 5.)

About 40 miles.

3 stages.

Epitome.—This road goes up the Karpo Chu to its source at the Druk La and then goes down the open elevated Lhakong valley to Lkyekye. There is no fuel above the second stage.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	KARPO (12,100')	13	13	The road goes 4 miles down the valley above the left bank of the river to the point where the road to Sanga Chöling comes in (Route 36, stage 4). Thence 1 mile up hill to the top of a spur called Kor Laptse. Then $\frac{3}{4}$ mile steep down to a bridge over the fordable Karpo Chu, $\frac{3}{4}$ mile up this stream, the direct road from Karpo to Sanga Chöling joins (6 $\frac{1}{2}$ miles). Then 5 $\frac{1}{2}$ miles up the left bank of the Karpo Chu to the first house of Karpo me. 1 mile further after crossing to the right and back to the left bank Karpo Shika is reached; one large house and 5 smaller ones; a good camping ground on the left bank of the river.
2	CAMP	6 $\frac{1}{2}$	19 $\frac{1}{2}$	The road goes 1 mile up the left bank of the stream to Doshö, village of 3 houses. Here a road goes off up a branch valley to Dem <i>via</i> the Ra La (Route 33, stage 7). 1 mile above Doshö is Mina whence a road goes up <i>via</i> the Traken La to Shirap (Route 39). 1 $\frac{1}{2}$ miles from Mina is Yu tö the highest village in the valley (3 $\frac{1}{2}$ miles). The three villages of Yu tö, Mina and Doshö are collectively known as Karpo tö. 3 miles further the road crosses the fordable stream from the left to the right bank by a bridge. There is scrub fuel here but none higher up the valley.
3	KYE KYE (14,600')	20 $\frac{1}{2}$	40	The road goes 4 miles up the valley to the Druk La, 16,600 feet. 1 mile from camp a nullah leads north <i>via</i> the Kamba La to Dem (Route 42). Just beyond the pass are 2 lakes called Tsomo Nyitri. The Druk La is at the eastern end of the open Lhakong valley, down which is a good road to Kye Kye. There is no fuel in the Lhakong valley but yakdung could be found. From near the Druk La there are several passes leading over the range to Trulung valley (Route 33, stage 7). The distance on this march is estimated.

Route No. 42.

KARPO (ROUTE 41, STAGE 1) TO DEM (ROUTE 33, STAGE 7), *via* the KAMBA LA.

22½ miles.

3 stages.

This is a little used road; the more direct road leaves the valley at Doshö and crosses the Ra La (see Route 41, stage 2).

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	CAMP	6½	6½	See Route 41, stage 2.
2	TRULUNG	9	15½	One mile up the valley to a nullah which leads from the Kamba La. From here there is a steep rise of 1,300 feet in 1½ miles to the Kamba La (17,100 feet). 2½ miles from the pass there is a steep descent of 2 miles when a valley on the left bank comes in from the Gyawo La. Thence 3 miles down to the point where the valley from the Chebo La comes in on the left bank (7½ miles). Up these 2 passes roads lead to Lhakong plain. Opposite the Chebo La nullah a nullah comes in on the right bank which leads <i>via</i> the Kolc La to Karpo, a more direct route than the one being described, ½ mile beyond this point is the first house Kulum on the left bank (8 miles). 1 mile further is Trulung of 8 houses where the road crosses the valley to the left bank, the stream being fordable.
3	DEM	7	22½	One mile down the left bank to Pumkar (6 houses) passing a nullah up which a road goes to Karpo <i>via</i> the Kiru La. At Pumkar a valley comes in from the west down which comes the road from the Puram La (see Route 33, stage 7). The road goes 1½ miles down to a point where a valley comes in from the west up which there is a road to Lolen and Tramtri (Route 28) <i>via</i> the Kye La. 1½ miles further is Sem village (4 miles), 3 miles further is Dem (4 houses). From Dem Route 27 leads down to the Tsangpo valley at Tromda.

Route No. 43.

BUNG (ROUTE 36, STAGE 3) TO LHÖNTSE DZONG.

(2 stages from local information.)

This is the direct road from Sanga Chöling to Lhöntse and is a good deal used.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	TEGYELING			The road goes 1½ miles up the left bank of the Char Chu to the bridge by the large <i>chorten</i> (Route 36, stage 3) where it crosses to the right bank and goes up a valley and crosses the Mo La and descends to Tegyelung village.
2	LHÖNTSE			The road goes down the valley from the village to its junction with the Nye valley at Nye me. Thence 10 miles up the valley to Lhöntse (see Route 49, stage 1.)

Route No. 44.

CHIKCHAR (ROUTE 33, STAGE 11) TO SANGA CHÖLING (ROUTE 36, STAGE 4).

73½ miles.

5 stages.

Eptome.—The first four stages of this route up to Yü tö are the short Tsari pilgrimage. The road is impassable for animals as far as Yü me. Fuel is plentiful at all camps except Mipa where a little dwarf rhododendron only can be got. As far as the Takar La. The rainfall in the country is heavy and the country well wooded below 13,000 feet. Practically no supplies can be obtained. The whole country is under snow

ROUTE No. 44—*contd.*

in winter till the end of May and the road impassable. A Pilgrimage is performed over the snow in April and the regular season is from June to September.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	MIPA (15,300').	11	11	The road goes up a steep valley through forest for 5 miles to Lapu, the first rest-house, 14,800 feet; 3 miles further up a steep rough road is the Drölma La, 16,100 feet; from the pass, it is 3 miles down to Mipa, the second rest-house which is reached just after crossing a deep but fordable stream. The road is very bad over sharp rocks on the south side of the pass. There is a little dwarf rhododendron fuel here and a fair camping ground.
2	POTRANG (14,700').	14	25	The road is good for 1 mile along the edge of a marshy flat; it then rises steeply 2 miles to the Shagam La, 16,100 feet (2½ hours from Mipa for lightly laden coolies). From the pass is a steep descent of 2 miles followed by a steep ascent through forest of 1½ miles to Tama La rest-house (14,400 feet 6½ miles). From here a road leads over a pass to Taktsang (Stage 3). The road then crosses several spurs and is very hilly. 6 miles from Tama La rest-house the Go La, 15,300 feet, is reached after a stiff climb. 1½ miles further is Potrang, two rest-houses by a lake. Fuel obtainable.
3	TOMTSANG (12,600').	15½	40½	The road is good and fairly level for 2½ miles to a small lake, the Dorje Pagmo Lam Tso, after which it is rougher and steeper. 1½ miles further it climbs up an almost vertical cliff by natural steps. From here it is 1 mile to the summit of the Tapgyu La (15,400 feet). From here it is ½ mile to a second pass at the head of the valley (5½ miles). From this pass there is a very steep descent of 1,000 feet to a hut at which point the short cut from the Tama La comes in (see stage 2); the road then goes down the right side of the valley which gradually becomes wooded to Taktsang rest-house (13,200 feet) in thick fir forest (8½ miles). From here there is a very steep climb 2½ miles to the Shangu La (15,500 feet). From the Shangu La a road leads direct to Chikchar reaching it in 1 day from Taktsang. ½ mile beyond the Shangu La the road crosses a spur, and 1 mile further is a pass. This part of the road is bad and rocky. From this pass the road descends very steeply into the valley and goes down the left bank of the stream through thin forest to a 20 foot bridge which leads to Tomtsang on the right bank. The stream is unfordable. There is a single rest-house.
4	YÜ TÖ (13,200').	15	55½	The road goes down the right bank of the stream through the forest for 1½ miles, when it turns up the left bank of a tributary. 1½ miles further it crosses to the right bank by a small bridge, the stream being fordable. From this bridge there is a very steep climb of 1 mile to Chakta Trang (14,100 feet, 4 miles) a single rest-house. From here a road leads <i>via</i> the Dorje Trak La to Totzen (Route 33 stage 11). From the rest-house it is 1 mile, latterly very steep to the summit of the Karkyu La, 15,000 feet. From the pass the road descends very steeply for 1½ miles, after which it is more level along the edge of a marshy plain for 2½ miles to Simoneri rest-house (13,500 feet, 9 miles). From here the road goes down a very steep rocky valley 1½ miles to Yü me (11,800 feet) a village of 12 houses, but no crops. From here on the road is passable for animals. A track leads down the valley from Yü me to the long Tsari pilgrimage. In former years Lopas used to come up the valley to trade who could not arrive before November, owing to the size of the rivers. At Yü me the road crosses

ROUTE No. 44—*contd.*

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
5	SANGA CHÖLING .. (10,900').	18	73½	<p>the fordable stream by a wooden bridge and goes up the left bank of a stream for 2 miles to Gompo Rong rest house (12,500 feet, 12½ miles). The road continues 2½ miles up the valley to Yü tö (4 houses, 13,200 feet). There is fuel here but no crops. From here a road goes <i>via</i> the Rip La, where there is a rest house on the north side of the pass, to Chösam in 1 day which completes the circuit of the pilgrimage.</p> <p>The road is very bad and stony for 8 miles to the Takar La (16,700 feet); the road is very steep near the pass. From the pass descend 3 miles steeply to the junction of this road with that from the Cha La (11 miles) where a camp could be made. Thence 7 miles into Sanga Chöling (see Route 37, stage 2, where this part of the road is described).</p>

Route No. 45.

CHAR ME (ROUTE 36, STAGE 5) TO KOMLHA (ROUTE 47, STAGE 5) *via* the LE LA.

31 miles.

3 stages.

Epitome.—This road leads from the Char valley to that of the Chayul. There is an alternative route *via* the Drichung La which leads to Trön Ta (Route 47, stage 7) in 2 days, the road being impassable for animals; the night is spent at a camp in the open without any shelter.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	KYIMPU (13,400').	7	7	<p>The road crosses the fordable Kyimpu stream to the left bank by a bridge and goes up upstream being hilly. 3 miles from Char me the road crosses to the right bank by a 33 foot cantilever bridge, and ¼ mile further it crosses to the left bank again. At these 2 bridges the stream is unfordable. There is a difficult road which climbs high up the left bank and avoids these two bridges which are frequently carried away by floods. 1 mile beyond the second bridge is Gyü, 1 house. From here a road crosses the river and goes to Tsi, a single house 1 mile, and thence to the Drichung La. 1¼ miles from Gyü the road crosses a fordable branch of the river by a bridge and near here but ¼ mile from the road is Chimekang village. 1½ miles further up the valley is Kyimpu, 4 houses. Scanty supplies. The only good camping ground is in the fields.</p>
2	GYANDRO	11½	18½	<p>The road climbs 6½ miles to the summit of the Le La 17,180 feet, and descends, at first very steeply, 5 miles to Gyandro, a single house. The only good camp is in the fields. Scanty supplies.</p>
3	KOMLHA	12½	31	<p>The fordable stream is crossed from the left to the right bank, and the road goes 3½ miles to its junction with the Nye Chu, part of the way being in a precipitous gorge. The road then crosses the stream which comes from the Le La and goes down the left bank of the Nye Chu for 1 mile, to Nyerong village (5 houses, 12,500 feet, 4½ miles) The Nye Chu is unfordable; there is a cantilever bridge over it ½ mile above Nyerong. The road continues down the valley for ¼ mile, when it crosses to the right bank by a 40 foot cantilever bridge; 1¼ miles further (6½ miles) is another bridge to the left bank, but the road does not cross this. ¼ mile beyond this bridge is the single house called Sampe (7 miles). The road from here goes down the right bank of the Nye Chu to its junction with the Chayul Chu and turns ¼ mile up the left bank of the latter to a 42 foot cantilever bridge by which it reaches the right bank of the Chayul Chu, 4½ miles from Sampe; then 1 mile in the Komlaha. (See Route 47, stage 2).</p>

Route No. 46.

KAP (ROUTE 47, STAGE 6) TO THE DAFLA COUNTRY.

(5 stages from local information.)

The road is impassable for animals. The Lha La is only open in July, August and September when it is closed there is a road which crosses the range further east and leads up the valley of the combined Char and Chayul rivers.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	CAMP .. ..	..	..	The Sang La is crossed. The road leaves the Chayul valley at a bridge, see Route No. 47, Stage 7.
2	CAMP .. ..	..	..	The Lha La is crossed. There is a wooden hut in the forest at which the Daflas stop when coming into Tibet. From here it is three days' march to the first Dafa village.

Route No. 47.

TSÖNA (14,500') TO LUNG (ROUTE 36, STAGE 6.)

90 miles.

8 stages.

Epitome.—This road leads from Tsöna over the Nyala La into the Loro or Chayul valley down which it goes to its junction with the Nye (see Route 45, stage 3). It then continues down to the junction of the Chayul and the Char near which the road is bad and thick jungle commences. For the road below Lung see Route 36, stage 6. The country round Tsöna and up to Loro Tö is elevated and there is no fuel, below Loro Tö there is a little scrub fuel the valley being very dry with irrigated cultivation. Good supplies could be obtained near Trashi Tongme and at and below Chayul Dzong. The road is passable for animals up to a point 5 miles below Komlha (see stage 6). From the Chayul valley 3 passes lead over the range to the south (1) The Lha La (Route 46) which leaves the valley $2\frac{1}{2}$ miles below Tenzika (stage 6). (2) The Kashong La which leaves the valley 3 miles below Natrampa, and (3) the Chupung La which leaves the valley near Lung. The Lha La and Kashong La are closed by snow from the end of September, and the Chupung La two months later. They open in July. When these passes are closed the Lopas cross some pass further east which must be lower in altitude and come up the valley.

No. of Stage.	Name of Stages.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	TRE	10	10	From Tsöna the road goes $1\frac{1}{2}$ miles down the open valley to Tsöna Dzong where there are some hot springs, and where 4 Dzongpöns reside; thence 2 miles across the plain to Tsolung (5 houses). The road then enters a narrow valley which it ascends, the valley gradually opening out and at the head to a flat pass the Doko La (15,500 feet, $5\frac{1}{2}$ miles). The road then descends an open valley for $4\frac{1}{2}$ miles to Tre village of 3 houses. No crops or supplies and only a little yakdung fuel could be obtained. From Tsolung a road goes up a nullah to the Ngunju La across which is a camp in the open; one day more crossing the Tra La the road reaches Pendo in the upper Loro Nakpo valley (Route 58, stage 2).
2	Loro tö (14,300')	13	23	The road goes for 2 miles up the open valley when another wide valley joins in from the north up which a road goes to Tengsho which is reached in 1 day. The road continues 4 miles up the valley to Gyisum, a village of 2 houses at the junction of two valleys (15,500 feet, 6 miles) after going 2 miles more up the valley the road turns north up a branch valley. From this point a pony road goes east to Goshu in the Loro Nakpo (Route 58, stage 2) valley <i>via</i> the Shangshang or Gonang pass, 1 day. The road goes north up the valley for 2 miles to the summit of the Nyala La (16,990 feet, 10 miles). The descent from the pass is at first steep and later more gradual through a very narrow valley 3 miles to Loro tö (5 houses) no fuel but yakdung and a few small bushes.

ROUTE No. 47—*contd.*

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
3	TRASHI TONGME .. (12,400'.)	14½	37½	The road goes down the valley, crossing the fordable stream several times and passing some villages, for 9½ miles to Jora Shika a village of several large houses and a <i>Gompa</i> of 80 monks 300 feet above the right bank. The river near here is unfordable in summer and is bridged by 30 foot cantilever bridges ½ mile above and ½ mile below Jora Shika. Two roads lead from here to Lhöntse (Routes 51 and 52) and just below Jora Shika a road goes south up a valley and crossing the Nari La reaches Karta (Route 58, stage 1) in the Loro Nakpo valley in 1 day. The road goes down the left bank of the stream passing Ta me village, 1 mile from Jora Shika and the larger house of Dru Shika further down. 5 miles from Jora Shika is Trashi Tongme a large <i>Gompa</i> containing 40 monks. Scrub fuel can be obtained. From Trashi Tongme a road leads to Lhöntse in 1 day <i>viâ</i> the Changmo La; this road leaves the Loro valley, 1 mile down stream from Trashi Tongme. A road also leads to Dirang <i>viâ</i> Mago (See Route 58).
4	SANGA SHIKA ..	12½	50	The road goes 2 miles down the open and well cultivated valley to Tro Shika (12,350 feet), a large house and village. From here the road is down the open valley passing several villages for 1½ miles when the valley closes in and is uninhabited for 3 miles when a 54-foot cantilever bridge leads to the right bank (6½ miles), there is no bridge passable for animals below this for 11 miles. 1½ miles further is Tô on the right bank at the foot of a well-cultivated valley. There is a foot bridge leading to the left bank here. The road continues down the right bank for 3 miles when it crosses a fordable tributary the Moga Lendze Chu by a 16-foot bridge. Up this valley is Moga Lendze <i>Gompa</i> whence a pilgrim road leads up into the hills going round Takpa Shiri snow peak in 5 days. 1½ miles further is Sanga Shika, 2 houses. The only good camp is in the fields. Water from irrigation channels.
5	KOMLHA ..	10	60	The road goes down the valley above the right bank ½ mile to Patoyü village, 1 mile further is Lungbu and 2 miles on Kangkar, 1½ miles beyond this (5 miles) the road crosses to the left bank by a 54-foot cantilever bridge. There is no bridge passable for animals between this bridge and that 11 miles further up stream, 3 miles down the left bank, after passing Takpa, Chayul Dzong (11,450 feet, 8 miles) is reached. There is a large village, a <i>Gompa</i> of 80 monks and the residence of two Dzong-pöns in a strongly-built stone enclosure; 1 mile further is a 42-foot cantilever bridge near the junction of the Nye and Chayul rivers by which the road crosses to the right bank; near the bridge the road is built up on revetments. From here 1 mile to Komlha, 15 houses scattered about in cultivation, camp in the fields, water from a small stream which joins the Chayul chu just below the village. On the road the villages are small and the road some 300 feet above the water and hilly.
6	TENZIKA ..	8	68	The road crosses a fordable stream at Komlha by a bridge and goes 4 miles down the right side of the valley when it crosses a deep gorge. 1 mile further Kap village is reached (5 miles 3 houses 11,400 feet). From here onwards the road is impassable for animals. 1½ miles from Kap the road which goes along galleries built along the face of cliffs reaches a deep gorge with vertical sides which is crossed by a bridge 18 foot span. 1½ miles further is an abandoned village called Tenzika. Camp in deserted fields. Water from the river No supplies.

ROUTE No. 47—*contd.*

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
7	NATRAMPA (10,200')	13½	81½	The road is impassable for animals; it goes 2½ miles down the right bank to a 60 foot cantilever bridge which is reached after a stiff climb and descent of 400 feet to avoid a cliff. A road takes off here to the Lha La, a pass leading over the range into the Lopa country (Route 46). The road crosses and goes ½ mile down the left bank to a gorge when the road ascends an almost vertical ladder 30 feet high which is placed on a pillar built of stone 50 feet high (3 miles). 2½ miles further a narrow gorge is crossed by a bridge. The road then descends to the river and crosses to the right bank by a 60 foot cantilever bridge from which it rises 1,300 feet to Trôn Trip village (7½ miles). Trôn Tu village is 1,300 feet above the left bank. From Trôn Trip the road goes about 3 miles to a point where a 20 foot ladder leads down a precipice. It then continues about 300 feet above the water 3 miles further to Natrampa, a good flat camping ground on deserted fields on the right bank of the river just before reaching camp, an unfordable stream is crossed by a bridge. 1,000 feet above Natrampa is Drötang village (11,200 feet) of 3 houses with a few single houses near it. From Trôn Trip a road crossing a high spur goes direct to Drötang keeping about 1,000 feet above the river.
8	LUNG	8½	90	The road continues down the valley, and about 3 miles below Natrampa the stream which comes from the Keshong La is crossed. Above the right bank of this stream is a temple called Karutra. The road goes on down to Lung (Route 36, stage 6) and is said to be difficult with several bridges, which are carried away in summer.

Route No. 48.

TAKPA (ROUTE 47, STAGE 5) TO LHÖNTSE (ROUTE 49, STAGE 1). *Viâ* the Gyala Lamo pass (2 stages, from local information.)

The road is passable for animals.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
	Lön .. ..	..	..	The road goes up the left bank of the Chayul Chu gradually rising above the valley and enters Lön valley which it ascends to the village. A short march.
2	LHÖNTSE .. ..	..	..	A long march over the Gyala Lamo La, a pass which is never closed.

Route No. 49.

NYERONG (12,500') (ROUTE 45, STAGE 3) TO TRIMO. (ROUTE 63, STAGE 4.)

91½ miles.

8 stages.

Up the Nye valley and *viâ* Dongkar Dzong.

Epitome.—This road goes up the Nye valley over the Hor La and down the Nyamjang Chu. As far as Dongkar the country is typically dry. Forest begins 2½ miles below Gor. Between Dongkar and Rang

ROUTE No. 49—*contd.*

the road is hard and barely passable for loaded yaks, unloaded ponies can be taken with difficulty. There are several wooden galleries in this part of the road.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	LHÖNTSE (13,100').	16	16	The road is said to go about 6 miles up the narrow valley of the Nye to Nye me, a small village on the left bank at the junction of the road which leads from the Mo La (Route 43); up to Nye Me the road was not followed. 2 miles further up is the larger village of Lungshi where the valley opens out to a width of $1\frac{1}{2}$ miles. The river is then forded to the right bank and Tong me village reached 1 mile further (9 miles). This ford can be used all the year round. Thence passing several villages the road goes 4 miles up the valley to Nega; 3 miles further is Lhöntse Dzong. The Dzong is a good stone building on a hill. There are many villages near by the valley being wide and flat. Fuel is obtainable. From here roads lead to Sanga Chölin; (Route 43); to the upper Löro valley (Routes 51 and 52); to the upper Char valley (Routes 38 and 53); to Chayul Dzong (Route 48).
2	SÖMPÜ SHIKA (14,000').	13	29	The road goes $2\frac{1}{2}$ miles up the south side of the valley when a bridge is reached which leads to the left bank and thence to Shobo Shar (Route 53). The road does not cross but continues up the open valley for $1\frac{1}{2}$ miles to Masa Tö. $1\frac{1}{2}$ miles further is Kyeo, 1 mile on, Nagur and $1\frac{1}{2}$ further Ritang (8 miles), from just above this a valley leads over the Go La to Jora Shika in the Loro valley. From Ritang a road goes north-west up the Sikung valley to the Kar-kang La and Tsetang; This is the most direct route from Lhöntse to Lhasa; it was followed by Nain Singh. At Ritang the road turns west up the Sömpü valley and 5 miles further Sömpü Shika is reached on the left bank after fording the river; a large house in a village, fuel is obtainable. A large valley leads from here to Loro tö <i>via</i> the Reba La in 1 day.
3	MORU	$13\frac{1}{2}$	$42\frac{1}{2}$	The road crosses the river by a ford and goes $2\frac{1}{2}$ miles up the right bank to Sömpü do village. A road from here goes up a branch valley to Tengsho which is 1 day's march from Tsöna. Up this same branch valley a road leads to Dongkar Dzong (stage 6) <i>via</i> the Gorpu La (stage 6). The distance is covered in 1 long day's march but as there is no grazing or fuel on the road it is not used in winter when the days are short except by messengers riding fast. $2\frac{1}{2}$ miles beyond Sömpü do is a hot spring and a single house called Trashigang, the highest house up the valley; $1\frac{1}{2}$ miles further ($6\frac{1}{2}$ miles), the road turns sharply to the left up a branch valley which is followed 7 miles to Moru camping ground. Yakdung is the only fuel; there is good grazing in summer to the end of October, but no house and no supplies. The main road used in summer from Tsetang to Tsöna passes this place (Route 50). Nain Singh's road <i>via</i> Ritang is only used in winter.
4	GYAO (15,000').	8	$50\frac{1}{2}$	The road climbs steeply 3 miles to the Hor La (17,680 feet), which is closed by snow from December to April. The road then descends for 3 miles down an open valley, after which the valley closes in and is narrow for 2 miles to Gyao, a village above the right bank. The stream is always fordable and is forded several times. In November the ice from the stream overflows the road and makes it impassable. There are 6 houses at Gyao but no fuel except yak dung and a little scrub which is cut at a distance and collected in the village. From here roads go to Trigu Dzong and Lhakang Dzong (Routes 54 and 55). There is also a road to Guptu in the Sikung valley, 1 day's march <i>via</i> the Sire La. This road leaves the main Gyao valley by a nullah which joins 1 mile above Gyao.

ROUTE No. 49—*contd.*

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
5	NYELUNG (13,900').	12½	63	The road goes 5 miles down the valley, crossing several times by easy fords, to a point where a large valley joins the left bank, up which is a road to Tengsho (2 days) <i>via</i> the Gu La, a pass which is closed in winter. Just below this point a large valley joins the right bank, up which are 2 villages of Ko mo and Ko tö, and at the head of which is the Karu La, over which the road to Lhakang Dzong goes (Route 55). 3½ miles further is Lingchen village (8½ miles) at the mouth of a valley up which roads go to Lhakang Dzong (Route 56), 4 miles further down the open valley and after passing several villages Nyelung (6 houses) is reached; a good camping ground; fuel is obtainable. A road leads to Pemba (Route 57).
6	GOR (13,750').	9	72	After leaving Nyelung the road crosses the river, which is fordable in winter by a 40-foot bridge and goes 1½ miles down stream to Nyipshi village; 2½ miles further the road crosses to the right bank by a 35-foot cantilever bridge, the river being only fordable in winter; ½ mile from the bridge is Dongkar Dzong (4½ miles), a large group of buildings inside a circular wall, the residence of a Dzongpon. From here the road crosses the river to the left bank and climbs 1,000 feet and goes along the steep hill side. About 1 mile from Dongkar a road goes off to the right which crosses the river, and passes Tsu village and after crossing two passes reaches the Durang valley in Bhutan (see Route 64). At the same point a road goes off to the left to Tsöna, 1 day's march <i>via</i> the Sang La. 3 miles from Dongkar the road passes the village of Orma which is ½ mile below the road, 1½ miles further is Gor, a village of 10 scattered houses. The road from Dongkar to Gor is very difficult in winter owing to the snow lying on the steep hillside but it is usually kept open by the people. From Gor a road reaches Tsöna in 1 day <i>via</i> the Gorpu La (Stage 3).
7	RANO (11,300').	13	85	The road is good climbing up along the open hillside for 1½ miles, when there is a very steep descent of 1,500 feet passing Pumdang Gompa to a 20-foot cantilever bridge over the unfordable Nyamjang Chu 2½ miles from Gor. The ford begins at this bridge. The road then goes a few hundred yards up the fordable Rong Chu which is crossed by a bridge. It then climbs up the right bank of the Nyamjang Chu, the river that comes from the Hor La. It is then hilly in places passing cliffs for 2 miles, when it drops to the river level again. 4 miles further are a few flat places where small camps could be made. 1 mile further (9½ miles) a road branches off and crossing the river by a bridge goes up the Ngang valley, up which there are 2 houses; Tsöna can be reached from Ngang in 1 day <i>via</i> the Ngang La. The road does not cross the bridge but continues down the right bank and 1 mile beyond the bridge after a stiff rise of 700 feet a clear flat spur is reached. 1½ miles further is another spur from which there is a steep drop of 900 feet in 1 mile to Rang village of 12 houses. Camp in the fields.
8	TRIMO (10,400').	6½	91½	The road goes 2 miles down the right bank to a 50-foot cantilever bridge by which it crosses to the left bank, 1½ miles further is a small bridge over the fordable Lu-nga stream. A road goes up this Lu-nga stream to Tsöna, 1 day's march. 3 miles further is Trimo (See Route 63, stage 4). The road is good and passable for animals on this stage.

Route No. 50.

TSÖNA TO RAMONANG IN THE YARLUNG VALLEY (ROUTE 33, STAGE 2).
(5 stages from local information.)

This is the direct road from Tsöna to Taetang, but is only used in summer as there is no grass at the camps in winter. In winter the road is that followed by Nain Singa *via* Ritang and Sikung.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	TENGSHO .. ..	..	..
2	MORU .. ..	..	..	Camp in the open (Route 49, stage 3). The Ashang Nyung La is crossed.
3	SIKUNG .. ..	..	..	....
4	CAMP IN OPEN .. ..	..	..	The road crosses the Marta La.
5	RAMONANG .. ..	..	..	....

Route No. 51.

JORA SHIKA (ROUTE 47, STAGE 3) TO LHÖNTSE (ROUTE 49, STAGE 1).

Via the Lagor La.

13½ miles.

1 stage.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	LHÖNTSE (13,100').	13½	13½	The road crosses the Loro Karpo Chu ¼ mile below Jora by a 30-foot bridge and goes ¾ mile down the left bank to Ta me village. From here it gradually leaves the valley and goes up a small nullah. 2 miles from Ta me a small spur is crossed and the road enters the Tseru valley. 1 mile further another higher spur is crossed which brings the road into the Pangkar Nang valley up which the road goes 2½ miles to Minda (13,700 feet, 6½ miles). From Minda the road rises 3,000 feet in 3 miles to the Lagor La (16,800 feet). The road then drops 3,700 feet in 4 miles to Lhöntse Dzong in the broad Nye valley.

Route No. 52.

JORA SHIKA TO LHÖNTSE.

Via the Gyandro La.

(Reported by Captain Morshead.)

18 miles.

1 stage.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	LHÖNTSE (13,100').	18	18	The road crosses the 30-foot cantilever bridge over the river ¼ mile up stream from Jora and goes 3½ miles up the right bank of the Turinang Chu passing several villages. It then turns up a nullah to the right (north-east) and goes up a stony stream bed 6½ miles to the Gyandro La (17,200 feet, 10 miles). The road then descends the valley 5½ miles and then goes 2½ miles down the broad valley of the Nye crosses a spur into Lhöntse.

Route No. 53.

LHÖNTSE (ROUTE 49, STAGE 1) TO CHARAP (ROUTE 36, STAGE 1).

(2 stages partly from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	SHOBO SHAR ..	10½	10½	The road leaving Lhöntse Dzong goes 2½ miles up the open valley when it crosses the stream to the left bank by a bridge in 3 spans. The river is unfordable in summer. It then goes 3 miles up the broad valley to a branch valley which comes in from the north at the mouth of which is Dzungna village (5½ miles). The road goes 2½ miles up the left bank of this stream to a point where the valley branches. The road up the north-west branch leads to Shobo Nub and that up the north-east branch to Shobo Shar both villages being 2½ miles from the junction (10½ miles). From Shobo Nub a road leads over the hills to Chumda Kyang (Route 33, stage 3).
2	CHARAP .. ..	..	..	The road goes up the valley and crosses the Tak La and descends to Charap.

Route No. 54.

GYAO (15,000', ROUTE 49, STAGE 4) TO TRIGU DZONG (ROUTE 34).

(2 stages from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	NAMTU .. ..	..	..	Cross the Chilung La and reach Namtu Village.
2	TRIGU DZONG ..	..	..	Two passes the Yangdzo La and Sheme La are crossed.

Route No. 55.

GYAO, 15,000', TO LHAKANG DZONG.

(4 stages from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	POKA .. ..	..	..	The Karu La is crossed. There are 2 routes from Gyao to the Karu La; one goes up the valley from Gyao, and crossing a pass reaches Ko tö below the pass; the other goes down the valley, 2 miles, and then crosses a spur and reaches Ko me village.
2	DACUUNG .. ..	..	..	The road is down stream all day.
3	PEMBA .. ..	..	..	The road crosses a pass. At Pemba is Sandru Gompa.
4	LHAFANG DZONG ..	..	..	In Karehu La is crossed. This is a long day's march.

Route No. 56.

LINGCHEN (ROUTE 49, STAGE 5) TO PEMBA (ROUTE 55, STAGE 3).
(3 stages from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	SHANGA .. ..	..	..	The Amaten La is crossed. Camp at Shanga village.
2	CHATSA .. ..	..	..	Village.
3	PEMBA .. ..	..	..	The Gendru La is crossed. There is also an alternative and shorter road which goes to Lhari village which is in the valley which comes in from the west at Lingchen; the second days' march the Kego La is crossed and Pemba is reached.

Route No. 57.

NYELUNG (ROUTE 49, STAGE 5) TO PEMBA (ROUTE 55, STAGE 3).
(2 stages from local information.)

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	Camp in the open ..	..	..	Cross the Dochung La.
2	PEMBA .. ..	..	..	Another pass is crossed on this march.

Route No. 58.

TRASHI TONGME TO DIRANG, *viâ* MAGO.

113½ miles.

13 stages.

Epitome.—This road is seldom used; between Mago and Tembang it is bad but passable with difficulty for animals. The Tulang La and the Tse La are closed by snow from the end of December to the end of May. Supplies are practically unprocureable between Karta and Tembang.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	KARTA	13½	13½	The Loro Karpo stream is forded opposite Trashi Tongme, and the road then goes up the left bank of the Loro Nakpo after rising steeply some 200 feet above the water; it is then flat along a terrace, and 3 miles from Trashi Tongme is a steep stony descent to the river. It then goes for 1½ miles along a cliff, where it is bad, to a 50-foot cantilever bridge by which it crosses to the right bank (4½ miles). From here there is a steep climb of 500 feet, after which the road is fairly level for 2 miles to Shio Shika (13,200 feet), a large group of houses. ½ mile further is a high bridge over a small deep nullah (7 miles). 3½ miles further the road crosses to the left bank by a 60-foot cantilever bridge. 3 miles further is Karta village reached after crossing a flat spur. There are about 20 houses on a well-cultivated flat. A road goes from here <i>viâ</i> the Nari La to Jora Shika (Route 47, stage 3).

ROUTE No. 58—*contd.*

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
2	PENDO	7½	21	The road goes 3 miles up the right bank of a tributary stream until opposite Goshu, a village on the left bank at the mouth of a valley up which a road leads to Tsöna in 2 days, <i>via</i> the Shangshang La and Gyisum (see Route 47, stage 2). 1½ miles further the road crosses to the left bank by a shallow ford opposite the small village of Cha. (14,300 feet, 4½ miles) 3 miles above Cha is Pendo, 2 houses at the junction of 2 valleys. That to the west leads to Tsöna in 2 days <i>via</i> the Tra La, which is closed in winter. (Route 47, stage 1). A little fuel. A few ponies and some yaks can be obtained in the valley up to this the last village.
3	SETI CAMP (16,000').	9	30	The road goes 6½ miles up the valley on a fair gradient to the Pen La (17,330 feet). There is a good deal of snow on the pass in winter, but it is never closed. From the pass the road goes 2½ miles down the left side of an open valley to a yak herd's camp called Seti on the right bank of the stream which is forded. There is no fuel but some yak dung would be found. From this camp a road leads over the range to Tsöna in 2 days <i>via</i> the Dzolung La.
4	GOSHU SHÖ (14,500').	11	41	The road crosses the valley and rises steeply up above the left bank and is then fairly level to a spur called the Zandang La, 3½ miles from Seti. Here it turns up a side valley and goes 2 miles along the hillside to Chupda, a yak herd's encampment at the junction of 2 valleys at 16,000 feet. There is no road down the Seti Chu. From here there is a steep ascent of 1,300 feet in 1½ miles to the Tulang La (17,250 feet, 7 miles) the last 250 feet being very steep. The pass is closed by snow from December to May. From the pass the road descends in places being very steep and stony down the right bank of the stream for 4 miles to the first fuel of bushes at a flat camping ground called Goshu Shö at the junction of 2 nullahs. The camping ground would have to be cleared of jungle. No house and no supplies.
5	MAGO (11,800').	11	52	The road goes down the right bank of the river passing a dangerous slip 3 miles from camp; 1½ miles further the road crosses to the left bank by a foot bridge where animals are obliged to ford. 1 mile further downstream is a flat called Chuna which would make a good camping ground, where there are several huts used by herdsmen; (5½ miles), large trees commence about here. 1½ miles further the road crosses the river which is now unfordable by a 20 foot bridge to the right bank. 2½ miles down stream it again crosses to the left bank by a 20-foot bridge, 1 mile below which is a hot spring. ¼ mile further at the junction of a large valley, the Dungma Chu, from the east are 10 houses called Dyuri; on the opposite side of the river are 10 houses called Nyuri and the two villages are collectively known as Mago. The camping ground is small and among the houses. No supplies but some yaks could be found. Fuel plentiful. There are snows on either side of the Mago Chu valley and there are no passes over these ranges.
6	LAP (14,700').	12	64	The road ascends on a good gradient through forest up the right bank of the Dungma Chu for 1 mile to a 40-foot log bridge by which it crosses to the left bank after which there is a very steep climb of 3 miles to the Chera La, 14,100 feet. There are small trees the whole way to the top of the pass. The road drops down from the pass and goes up the right bank of the Gorjo Chu in an easterly direction for 1½ miles to a hut called Goru Rong (5½ miles) 2½ mile further the valley opens out into a flat marshy plain. The road then goes 3 miles up

ROUTE No. 58—*contd.*

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
7	SAMJUNG (12,850').	9½	73½	stream, gradually leaving the tree limit, to 3 huts called Chumba. 1 mile further are 3 huts called Lap. Small scrub fuel can be obtained, but there are no supplies. Lap and Chumba are occupied by yak herds from the end of May to the end of December; at other times of the year the whole country is under snow and the roads impassable. From the Chera La a road goes to Tawang in 4 days (Route 59). The road crosses the stream which is fordable and goes 1½ miles up stream when it leaves the valley and rises 800 feet in 1½ miles to the Tse La, 15,600 feet. From the Tse La a road leads <i>via</i> the Namsanga La to the Dafia country; the first Dafia village is reached in 3 or 4 days. From the pass the road descends the right side of the Ele valley passing a small lake to Puto hut 3½ miles from the Tse La; about this point small scrub fuel begins to appear. 1½ miles further is Ele hut and 1½ miles further still is Samjung hut in a clearing in the forest. Large tree forest begins about 1 mile above Samjung. The road from the pass is very bad and stony but passable for ponies. No supplies.
8	KYALA (12,500').	8	81½	The road crosses the fordable stream at the camp by a 25-foot log bridge and gradually ascends the left bank going down stream; it is bad and stony. 3 miles from camp the road crosses a spur into the valley of a tributary stream. ½ mile further it crosses the Parg La (12,950 feet) into another valley and is then good for 1 mile to the Pöshing La (11,950 feet, 4½ miles). From the pass there is a very steep stony descent of 500 feet followed by a similar steep rise after which the road which is fairly good goes down a spur through forest of tall rhododendron and fir for 3½ miles to Kyala, a single hut and a good camping ground. Water is obtained from a very small spring, but there is also a rather stagnant pool at which animals could be watered.
9	LAGAM (9,200').	10	91½	The road climbs slightly and then descends steeply 1,100 feet in 2 miles to Kudam camping ground and hut. Water is obtained ¼ mile from the hut down the hill to the west. From Kudam the road descends through rhododendron forest for 3½ miles to Nindro camp and hut, 2½ miles further is Tungdri (8 miles, 10,800 feet), where there are 2 huts and a good camping ground on a spur clear of jungle for ¼ mile of its length; water is obtained from a stream some distance below. From Tungdri the road ascends 150 feet in a mile to the Kanga La, from which there is a very steep descent of 1,600 feet in 1 mile to Lagam (5 houses and 1 temple). Water from a stream 100 yards east of the temple. This village is only occupied in winter except by 1 family. The other people live at Lap and Chumba in summer (Stage 6).
10	TEMBANG (7,600').	9	100½	The road descends, at first very steeply, through forest, crossing several streams for 3½ miles when some fields and 3 huts called Shamshing are reached (6,500 feet); the road is marshy about here. 1 mile up the hill above here is Pangma village. From Shamshing after a climb the road is good and nearly level partly through thin oak forest for 5½ miles into Tembang, a large village of 20 houses on a spur fortified with loopholed doors on the roads where they enter the village. Plentiful supplies of maize, etc., could be procured. Water from a spring. Camping ground on a flat spur below the village. ½ mile from Lagam at a <i>Mendang</i> the road leading to the Miji country <i>via</i> the Gogyang La branches off to the east. The villages of Matan

ROUTE No. 58—concl'd.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
11	DIRANG (5,700')	13	113½	<p>and Dibden are reached in 1 day from Lagam by this road. From Tembang a road goes down the stream to the Aka country, passing But, which is visible from Tembang and Konia, the last Tibetan village. There are 2 rope bridges below Tembang which lead to the right bank of the Dirang Chu at Rahung and Kutam, but there are no wooden bridges over the river below Dirang. From Rahung a road leads to Dukpen (Rupe) in the Putang valley <i>via</i> the Rib La, 1 day in summer and 2 days in winter, the camp being at a hut south of the pass.</p> <p>The road is good along the hillside through thin pine and oak forest for 4½ miles, when a stream is reached near some fields after a steep descent. A steep ascent of 1,400 feet in 1½ miles leads to the Denchu La, 7,600 feet, whence the road goes down 1 mile to Namshu, a large village of 30 houses (4,400 feet, 7 miles). From here a road passable for animals goes over the hills to Pangma (stage 10). From Namshu the road goes 1½ miles up to the Bartsa La, from which it descends gradually for 2 miles, when there is a steep drop of 800 feet in 1 mile to a 65-foot cantilever bridge over the unfordable Sangti Chu (11½ miles). The road then goes ¼ mile down the right bank of the Sangti to its junction with the Dirang Chu and ¼ mile up the left bank of the Dirang to a 100-foot cantilever bridge by which it crosses to the right bank, the river being unfordable. From the bridge the road goes 1 mile down the right bank of the river to Dirang Dzong and town of about 80 houses. An unfordable stream crossed by a 50-foot log bridge passes through the town.</p>

Route No. 59.

MAGO (ROUTE 58, STAGE 5) TO JANG (ROUTE 60, STAGE 3).

(3 stages from local information.)

This road is impassable for animals.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	LUGUTANG .. ..	..	..	The route goes to the Chera La (4 miles) by the road described in Route 58, stage 6. From the pass it descends in a westerly direction and goes down the Gorjo Chu to Lugutang village.
2	KYALO CAVE .. ..	..	..	Three spurs are crossed, the Tsalung La, Chedze La, and Kya La. From the cave a road reaches Sengdzong in 1 day. (Route 60, stage 2.)
3	JANG .. ..	..	..	Route 60, stage 3.

Route No. 60.

DIRANG DZONG TO RANGIYA STATION ON THE EASTERN BENGAL STATE RAILWAY,
via TAWANG, AND TRASHIGANG (IN BHUTAN).

190 miles.

16 stages.

This road goes up the Dirang Chu to its source at the Se La across which it enters the valley of the Tawang Chu, which it follows to Trashigang, an important Dzong in Bhutan, Stages 8 and 9 are from hearsay

ROUTE No. 60—*contd.*

as the bridge over the Durang Chu was broken and another route had to be followed. Supplies are plentiful and the villages mostly large. The country is covered in thin forest with open clearings. The road is passable for animals the whole way.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	NYUKMADONG .. (8,100').	12	12	The road goes 3 miles up the right bank of the Dirang Chu along the hillside to a flat place called Karka Tang which would make a good camp for a brigade and where there is a bridge over the river. On the hill above the plain is the large village of Jepshing. The road continues 2 miles up the right bank to Lis village of 50 houses; 4 miles further up stream a 70-foot cantilever bridge takes the road to the left bank (9 miles). From the bridge the road rises about 1,000 feet and goes along the hillside above the left bank of the river the road being bad and stony; 3 miles from the bridge is Nyukmadong, a village of about 50 houses. There are some bare uncultivated spurs on which a camp could be made. From here roads which are impassable for animals lead to Saktin in Bhutan 2 days (Route 61) and to Mago <i>via</i> Kayalo. (See Route 59.)
2	PANGKANG CAMP ..	10½	22½	The road is good for 1 mile down to the fordable Sateng Rong stream which is crossed by a 30 foot wooden bridge. It then rises very steeply 2,000 feet in 1½ miles, after which it is less steep to Sengedzong (4 miles, 9,900 feet 20 houses). From here a road leads to Mago <i>via</i> Kyalo (Route 59) which is passable for animals. From the village the road goes up a spur rising 3,000 feet in 4 miles, after which it is less steep for 1 mile to the Se La (13,940 feet, 9 miles). From the north side of the pass, road leads to Mago. The road then descends 1½ miles to a wooden hut where a camp could be made; no supplies. There are several other wooden huts on the road on both sides of the pass.
3	JANG (8,000').	9½	32	The road goes down the right bank of the stream for 5 miles to a hut and camping ground called Simteng where it crosses the unfordable stream by a 30 foot bridge. It then goes 4½ miles down the left bank to the large village of Jang which is near the junction of the stream from the Se La with that which comes down from Mago. A bad road leads up this stream and, passing Timbang village, reaches Mago in 4 days.
4	TAWANG (10,200').	10½	42½	The road descends 800 feet in 1 mile through fields to a bridge over the Tawang Chu. The bridge is made in 2 spars of 50 feet each resting on a masonry pillar 12 feet wide in mid-stream. From the bridge the road rises 700 feet through forest at first steeply to Lhau village 3½ miles from Jang. 3 miles further is Okar 1 mile beyond which the road descends to a fordable stream which is crossed by a 20 foot bridge (7½ miles). Thence 3 miles up hill to Tawang. There is a very steep short cut to Tawang from the 20 foot bridge. Tawang is a large <i>Gompa</i> on a grassy spur surrounded by a wall outside which is a town of 150 houses. The council who rule the surrounding country live in the <i>Gompa</i> .
5	SAKTI	9	51½	The road goes 1 mile down over open turf to Tsangpo Rong village after which it goes down very steeply 1 mile to Siru village (20 houses). From Siru a road goes down to a bamboo suspension bridge over the Tawang Chu which is a more direct road to Downaziri than this down the left bank of the river. From Siru the road goes 1½ miles down to a 45 foot wooden bridge over the Kangtong Rong stream (3½ miles). From the bridge the road rises 4½ miles to Pamuka village and 1 mile further down hill is Sakti 15 houses. Camp on sloping hillside.

ROUTE No. 60--*contd.*

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
6	LUMLA (8,250').	9	60½	The road goes ½ mile down a very steep paved road to a 40-foot bridge over the Kibu Rong stream (7,700 feet); from here climb 1 mile at first on a very steep and paved road to Tongleng village (20 houses). Thence climb 2½ miles to a pass the Sab La (9,400 feet 4 miles). From the pass the road descends 600 feet in 1 mile to Trilem village (15 houses); it then goes 2 miles along the wooded hillside to Manam village, which is below the road. 2 miles further is Lumla village on a spur.
7	BETING - - -	13	73½	At Lumla the road leaves the Tawang Chu valley and goes up that of the Nyamjang Chu. It commences with a very steep drop of 1,600 feet in 1½ miles to a small stream from which it continues to descend 1 mile to another small stream. Thence 1 mile fairly level to Yashar village (20 houses 3½ miles). From the village the road descends very steeply 900 feet in 1 mile to a small stream from which it ascends 500 feet in 1 mile to Pomong village (8 houses 5½ miles); it is then fairly level for ½ mile to Karteng (40 houses). From here it descends 800 feet in 1½ miles to a bamboo suspension bridge over the Nyamjang Chu, 135 feet span which is made passable for animals by placing several layers of strong bamboo matting on the floor and covering it with grass. This bridge is specially strengthened every year about November; in summer it would not be possible for animals, 3 loaded coolies or one animal can be on the bridge at a time. From this bridge a road goes up the left bank of the river close to the water to the cantilever bridge 2 miles up stream from Shakti, distance about 10 miles. (See Route 63 stage 2.) From the suspension bridge the road goes up the hill above the right bank and passing a small village reaches Sanglung village (15 houses) on a spur 1½ miles from the bridge (9 miles 4,550 feet). A further rise of 1,200 feet in 2½ miles brings the road to Tongmaring village, whence the road rises 500 feet in 1½ miles to Boting (12 houses). The road is mostly along open hillside past cultivation.
8	GOM KORA ..	8	81½	The road goes 2 miles along the hillside to a small water-course which forms the frontier between Tibet and Bhutan; 1 mile further is Chengpu village (10 houses). From here the road goes about 5 miles to Gom Kora where there is a temple but no village. The road is along a thinly wooded hillside about 2,000 feet above the water.
9	TRASHIGANG DZONG (8,250').	12½	94	The road goes down to a bamboo suspension bridge over the Trashi Yangsi or Durang Chu. It then rises and drops to a fine iron chain suspension bridge over the Tawang Chu 1,100 feet, above which is Trashigang Dzong, a large and important building with a village near by. The Dzong is the residence of an important official. There is also a <i>Gompa</i> of 30 monks.
10	YÖNPU LA .. (8,200').	10½	104½	The road is good and fairly level along the hillside for 4½ miles to a fordable stream the Bamri Chu. It then climbs 1,700 feet in 2½ miles, passing the scattered village of Rongtung, to a small stream. It then climbs 3,000 feet steeply in 3½ miles partly through forest, past several huts at which camps could be made to an open spur the Yönpu La where there is a large camping ground. Water is obtained from a stream ¼ miles further along the road.
11	NEWTONG LA ..	11½	116	From the pass the road is fairly flat through forest for ½ mile to a large <i>Chorten</i> from which point it descends 2,000 feet in 3 miles the road being good. From this point the main road to Dewangiri goes down the spur but transport cannot be obtained on the main

ROUTE No. 60—*contd.*

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
				road. The other road descends 1,800 feet in 2 miles by steep zig-zags to a 65 foot cantilever bridge over the Jiri Chu (5½ miles 4,400 feet). It then climbs 2,400 feet in 5 miles through forest to the Mentong La (6,800 feet) from which it descends 1,000 feet in 1 mile down an open hillside to a good camping ground. There are some houses ½ mile off the road.
12	TSALARI CHU ..	8½	124½	From camp the road is good for 1 mile dropping slightly, it then drops very steeply 2,700 feet in 2½ miles to a 30-foot bridge over the unfordable Temri Chu. The road crosses and goes 1 mile down the left bank of the stream until it reaches a point 500 feet below Wagam Rong, a village on a hill and the residence of a small Bhutanese official. Here transport and supplies can be obtained. The road continues down the left bank of the stream, crossing several tributaries, each in a deep valley. 4 miles from Wagam Rong is the Tsalari Chu, a fordable stream in a valley 300 feet deep. There is no water for some distance beyond this stream.
13	KERI	7½	132	The road climbs steeply 2,500 feet in 3 miles, after which it is less steep but later again rises 1,500 feet steeply to a pass (6½ miles.) Thence 1 mile of good going to Keri Gompa a temple on a hill. There are several small houses near by. Camp on a flat open spur. There is no water on the road except for 1 stagnant pool which is passed 1 mile before reaching the pass.
14	ORONG Stream ..	16	148	The road is good the whole way; it rises 600 feet and descends to the Rimpa La 6 miles. The road then goes down 7½ miles to a fordable stream the Mogrong Chu, (13½ miles). Except for a stream 4 miles from Keri there is no water on the road up to this point. At one or two places travellers camp who bring their water up from some distance below in the valley. The road then goes 2½ miles down the stream fording it five times to avoid cliffs, the water being more than knee deep; a flat stony clearing is then reached at the junction of the Orong stream up which is Orong village whence supplies and coolies could be obtained.
15	GUDAM	16	164	The road goes down the stream 2½ miles fording it twice; it then climbs 900 feet in 1½ miles above the left bank and then is less steep for 1 mile when the top of a spur 2,200 feet above sea level is reached (5 miles). Dowangiri called Dargam by the Tibetans and Bhutanese is on this spur. The road does not pass through the village but crosses the spur below it and descends 1,000 feet in 2 miles. From here there is a good hill road 9 miles to a good camping ground where there are some grass huts, used by the coolies who repair the road, at the 23th milestone on the cart road to Rangiya railway station. Gudam is in the plains clear of the hills.
16	RANGIYA (Railway Station.)	26	190	There is a cart road the whole way. At the 22nd milestone Komri Keta village called Baksha by Tibetans is passed. At the 20th milestone is Hazara Gun at the 14th Tambalpur called Ali Giastam by Tibetans. Buffalo carts which can only travel by night are the transport though there are a few bullock carts as well.

Route No. 61.

NYUKMADONG TO SAKTEN IN BHUTAN.

(2 stages, from local information.)

This road is impassable for animals.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	PEGANG .. ..	..	..	A single hut. The road goes down the Dirang Chu, which it crosses and goes south-west up a side valley.
2	SAKTEN .. ..	..	..	The road crosses the Sanya La into the upper valley of the Putung Chu; it then crosses the Orka La, the Bhutanese frontier, and reaches Saktén village.

Route No. 62.

BETING (ROUTE 60, STAGE 7) TO TRASHIGANG (STAGE 9).

24 miles.

2 stages.

This is an alternative route to stages 8 and 9 of Route 60 used when the bridge over the Durang Chu is broken.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	RAMJAR (5,300').	14½	..	The road goes 2 miles along the hillside to a small watercourse which forms the frontier between Tibet and Bhutan, 1 mile beyond which is Changpu village (10 houses). From here the road descends very steeply 2,000 feet in 1½ miles to Manam (10 houses, 4,700 feet) village; it continues to descend 1,100 feet in 1½ miles to the river bed and follows down the right bank for ½ mile to a 180-foot bamboo suspension bridge impassable for animals (6½ miles). The bridge will only bear 6 loaded coolies at a time. Near this bridge the Rolam Chu joins the river at the head of which is the Wangsing La; across the pass is a large thickly inhabited valley called Salen, the upper valley of the Gamri Chu. From the bridge the road is level for 2 miles down the left bank through rice fields when it rises 1,500 feet in 1 mile through pine forest. It then rises 1 mile more but is less steep to Yalang village (10½ miles). Then after a steep descent of 500 feet it is fairly level 2 miles to a stream bed whence it rises 700 feet in 2 miles to Ramjar a scattered village among rice fields.
2	TRASHIGANG DZONG (3,250').	9½	24	The road climbs 900 feet steeply in 1 mile to a spur from which a road branches off to Salen and Saktén; from here the road is good for 3½ miles through thin oak forest and fields gradually descending 1,000 feet to some <i>chortens</i> . From here it drops steeply 3,200 feet in 3 miles through pine trees to a 60-foot cantilever bridge over the Gamri Chu, unfordable (7½ miles). It then rises 700 feet in 1½ miles of good going to a small stream from which the road rises 600 feet in ½ miles by steep zigzags to Trashingang Dzong.

Route No. 63.

LUMLA (8,250') (ROUTE 60, STAGE 6) TO TSONA *via* the Nyamjang valley and Pö La.

52½ miles.

5 stages.

The road is passable for animals, but there are very few ponies in the villages and coolies are the transport most used. The country is wooded up to the neighbourhood of the Pö La, after which it is open and above the fuel level. The villages are large and supplies could be obtained.

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
1	SHAKTI (7,250').	11½	11½	As far as Yashar 3½ miles the road is the same as Route 60, stage 7. From Yashar the road climbs steeply 500 feet up steps, after which it goes along the steep hillside; 4 miles from Yashar after a very steep descent of 500 feet Gyipu village is reached (20 houses). The road then goes down a bad and narrow road descending 800 feet in 1 mile, after which it is more level but very rough and stony for 3 miles to Shakti, which is reached after crossing a fordable stream by a 30-foot bridge. There are about 30 houses.
2	PANGCHEN	9	20½	The road descends 1,200 feet in 1½ miles to a 20-foot bridge over a fordable stream; ¼ mile further it reaches the bank of the Nyamjang Chu, which it crosses to the right bank by a 100-foot cantilever bridge. From this bridge a road goes down the left bank about 10 miles to the bamboo suspension bridge below Karteng (see Route 60, stage 7). From the bridge the road goes up the right bank 3½ miles to some fields, where a camp could be made (5½ miles); ½ mile further is a 35-foot bridge over an unfordable tributary, 2 miles beyond which is a large <i>chorten</i> and some houses in fields called Gorsam (8 miles); 1 mile further the road crosses to the left bank by a 75-foot cantilever bridge at the village of Pangchen or Kyalengteng. There are 30 houses in fields on both sides of the river.
3	Le (8,350').	10	30½	The road goes up the left bank of the river and is partly flat and marshy for 2 miles to a bridge which leads to the right bank. The bridge is in two spans of 50 feet each resting on a masonry pillar 10 feet wide. It then goes 3 miles up the right bank, when it crosses to the left by a 75-foot cantilever bridge. There is also an alternative road which goes up the left bank all the way and which rises 1,200 feet to Shoktsen village (20 houses) and descends to the 75-foot bridge; there is a hut at the bridge and a good camping ground. 2 miles above the bridge the road again crosses to the right bank by an 80-foot cantilever bridge each end of which is fortified with a block house (7 miles). The road then goes 3 miles up the right bank to Le village, crossing an unfordable stream by a 30-foot bridge just before reaching the village. The last 5 miles of the road are bad over galleries and stone causeways in the water. There is a flat uncultivated camping ground at Le straight below the village on the bank of the river. The road is through a narrow gorge in forest most of the way.
4	TRIMO (10,700').	10½	41	The road goes 1½ miles up the right bank of the river to a 50-foot cantilever bridge by which it crosses to the left bank and then 1 mile up the left bank to a 40-foot log bridge by which it crosses to the right bank again. It then goes 3 miles latterly rising 900 feet steeply to a <i>tsukang</i> or customs house which is built across the road (5½ miles, 12,300 feet). From the <i>tsukang</i> the road goes down ½ mile to Lepo village of 10 houses on a wide flat part of the valley; 1½ miles further up the left bank is a 70-foot cantilever bridge to the right bank. From this bridge a road

ROUTE No. 63—*contd.*

No. of Stage.	Name of Stage.	DISTANCES.		REMARKS.
		Inter-mediate.	Total.	
5	TsōNA (14,500').	11½	52½	<p>leads to Kyipa village, which is above the left bank. After crossing the bridge the road goes ¼ mile up the right bank, when an unfordable tributary is crossed by a 15-foot bridge. 2¾ miles further and 700 feet higher is Trimo village, 12 scattered houses of Mōnbas. See Route 49 for the road which continues up the valley to Dongkar.</p> <p>The road goes up a steep and stony valley rising 3,300 feet in 4½ miles to a spur from which the road is less steep for 1½ miles to the summit of the Pō La (14,900 feet 6 miles). It then goes 3½ miles along an open valley bare of vegetation to the Tengde La (14,800 feet.) From this pass it descends 300 feet to 2 miles to Tsōna village, 250 houses and a few fields. Many traders come here at certain times of the year. Plentiful supplies. Fuel is yak dung.</p>

Route No. 64.

DONGKAR DZONG (ROUTE 49 STAGE 6) TO TRASHIGANG DZONG (ROUTE 60 STAGE 9).

(10 Stages from local information.)

Epitome.—This road crosses from the Nyamjang valley into that of the Trashi Yangsi Chu (called by Tibetans the Durang Chu) in Bhutan; this river is descended to its junction with the Tawang Chu, whence Route 60 is followed to Trashigang. The whole country except on the tops of the passes is wooded; after the first Bhutanese villages are reached it is thickly populated. The passes are closed by snow in winter from the middle of November.

Long stage.	Name of stage.	DISTANCE.		REMARKS.
		Inter-mediate.	Total.	
1	RONG .. ..	..	..	There are two roads; one crosses a spur the Cha La and the other follows Route 49, stages 6 and 7 up to Rong Chu, which it ascends to the village.
2	RINCHENPUNG ..	..	..	A single uninhabited temple on a stream which flows into the Nyamjang valley a short distance above Le. The Chu La is crossed, on which there are no trees.
3	SHINGBE	..	..	A single wooden hut. The Me La is crossed, on the summit of which are dwarf bushes.
5	TARI PE .. ..	..	..	The first Bhutanese village in the Trashi Yangsi valley. Wooden huts are passed at Lao and Barekang.
6	DURANG CHORTEN	..	..	Many villages are passed.
7	TRASHI YANGSI DZONG.	..	..	A short march of about 6 miles.
8	PALONLENGAR ..	..	..	Village.
9	CHAMGAR .. ..	..	..	Village.
10	TRASHIGANG DZONG.	..	..	Village.

APPENDIX III.

GEOLOGICAL.

ROCKS FROM EASTERN TIBET.

COLLECTED BY

CAPTAIN BAILEY AND CAPTAIN MORSHEAD.

DESCRIBED BY J. COGGIN BROWN.

A pale fine-grained greyish white rock speckled with shining flakes of muscovite mica. When examined under the microscope the rock is seen to be extensively altered and to consist of clear unaltered quartz grains and flakes of altered mica, set in a network of small branching veins of opaline silica.

No. 3775 a.

Rock from the sulphur mines, 4 miles below Gyala, right bank. Tsangpo, 10,000 feet.

Cellular quartz with thin incrustations of native sulphur. Some specimens show small flakes of graphite, which is probably derived from the original schistose rocks in which the sulphur and other secondary minerals have been deposited.

No. 3775 b.

Same locality.

Dark quartz-biotite schist. A dark coloured rock composed of translucent granular quartz, brown biotite mica, a little garnet and a few small zircons, usually included in the quartz. Certain layers in the rock contain more mica than others, and in them the quartz grains are much smaller than elsewhere. The parallel arrangement of the minerals produces a fairly good cleavage.

No. 3775 c.

South-west of Sü-la, 14,500 feet; boukler.

A fine-grained black and white gneiss with well marked banding. Black flakes of biotite are specially abundant along the foliation planes. Clear and translucent quartz grains are common, and the feldspars are often faintly coloured when seen in the mass. The predominant minerals in this gneiss are quartz, orthoclase, plagioclase, microcline and biotite, with garnet and apatite as accessories. The biotite occurs in light and dark brown shreds and ragged flakes of very irregular outline. Occasionally the commencement of an alteration to a light green chlorite is shown. The larger quartz grains are sometimes marked by lines of minute inclusions. The garnet crystals are paler than usual, and are very smashed. They seem to be broken and invaded by the quartz mosaic especially near the shear lines mentioned below. The rock clearly shows the results of excessive mechanical strain, especially evident in the granulation and strain shadows of some of the quartz crystals and the fracturing of the feldspars. The slide is traversed by shear planes along which the mica crystals have been dragged out and the quartz broken up into small granular aggregations.

Graphitic mica schist. A speckled black and grey rock of unusually fine texture, in which schistosity is very well developed. In the small hand specimen the micas are seen to form continuous films as in the typical mica schists. Under the microscope a section shows the rock to be composed of abundant recrystallized quartz grains of very irregular outline, forming a closely interlocking mosaic; most of the grains show strain shadows. The mica is a biotite which occurs in large and small ragged outlined flakes of a deep rich brown colour. These are remarkably free from inclusions though sometimes wrapped around the smaller quartz grains. The common feldspar is microcline. Graphite occurs in irregular flakes and smaller rounded grains, generally touching or not far from the biotite crystals. One small zircon was detected in the slide.

No. 3775 f.

From Tri po glacier right bank of Tsangpo, 10,000 feet, 10 miles above Gayala.

Fine textured black and white gneiss. The surface of the specimen is very weathered. A thin section shows this rock to be composed of an even-grained mosaic of quartz, felspar and biotite mica with garnet as an accessory mineral. The

No. 3775 e.

From rocky spur above right bank of Tsangpo, 5 miles below Pemaköchung, 12,000 feet.

clear finely granular aggregates of quartz and felspar appear to be the result of recrystallization,—a typical cataclastic phenomenon resulting from severe crushing. The garnets are irregular in outline and enclose bits of quartz. The rock approaches a garnetiferous granulite in composition.

The shining jet black deposit on these two small stones from below the high flood level of the Tsangpo consists chiefly of a mixture of oxides of manganese and iron. Similar deposits are often found on the stones and rocks forming the bed and banks of many of the larger rivers

No. 3775 i.

Stones with shining black deposit from below high flood level of the Tsangpo between Tro and Kipsi, 10,700 feet.

in Africa and Asia. When fractured the pebbles are seen to consist of a homogeneous dark greenish grey rock which on examination in thin section proves to be a fine grain gneiss in the last stages of decomposition. Ragged outlined quartz grains are the only unaltered mineral which remains. Felspars are represented by opaque and semi-opaque masses of kaolinitic and saussuritic decomposition products. The micas are entirely replaced by chlorite, epidote and other secondary minerals, though the outlines of the original crystals still remain and still preserve their parallel orientation.

The material out of which the stone bowls of eastern Tibet are carved is a silvery grey talc schist, with brownish markings due to ferruginous decomposition products. These are the only minerals which

No. 3775 j.

Fragment of a bowl cut out of rock at Pango in Pemakö, covered with inscriptions in Tibetan.

can be detected in the hand specimen. A section shows that the rock is composed entirely of talc, which occurs in fine foliated masses exhibiting both compact and fibrous structures. The double refraction is very strong and the interference colours are of the third order. It extinguishes parallel to the basal cleavage lines. The only other mineral present is a carbonate in well formed crystals; this is probably magnesite,—and small irregular aggregates of serpentine showing the typical cracks and interference colours.

No. 3775 k.

East side of lower end of Yigrong Tso in Po me, 7,300 feet.

Bog iron ore.

No. 3775 l.

Boulder on old moraine north side of Drölma La, Tsari, 15,500 feet.

Casts of an indeterminable lamelli-branch perhaps referable to some aviculopectinoid genus? Trias.

No. 3775 m.

Boulder on Simoneri plain. Tsari, 13,500 feet.

Cast of an interminable lammeli-branch. ?Trias.

Concentrate from alluvials at Tratsang, west of the Pu La, result of 1½ days washing by two men. On assay the concentrate yielded .750 grains or 0.0484 gms. of gold. The concentrate consisted chiefly of small, well-rounded grains of ilmenite, a little magnetite, with small quantities of quartz, garnet and zircon. The gold occurs both as fine dust and in larger, well-rounded particles.

18th December 1913.

J. COGGIN BROWN,

Geological Survey of India.

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