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THE ASSAM BORDER OF TIBET: *A paper read at the Evening Meeting of the Society on 22 January 1934, by*

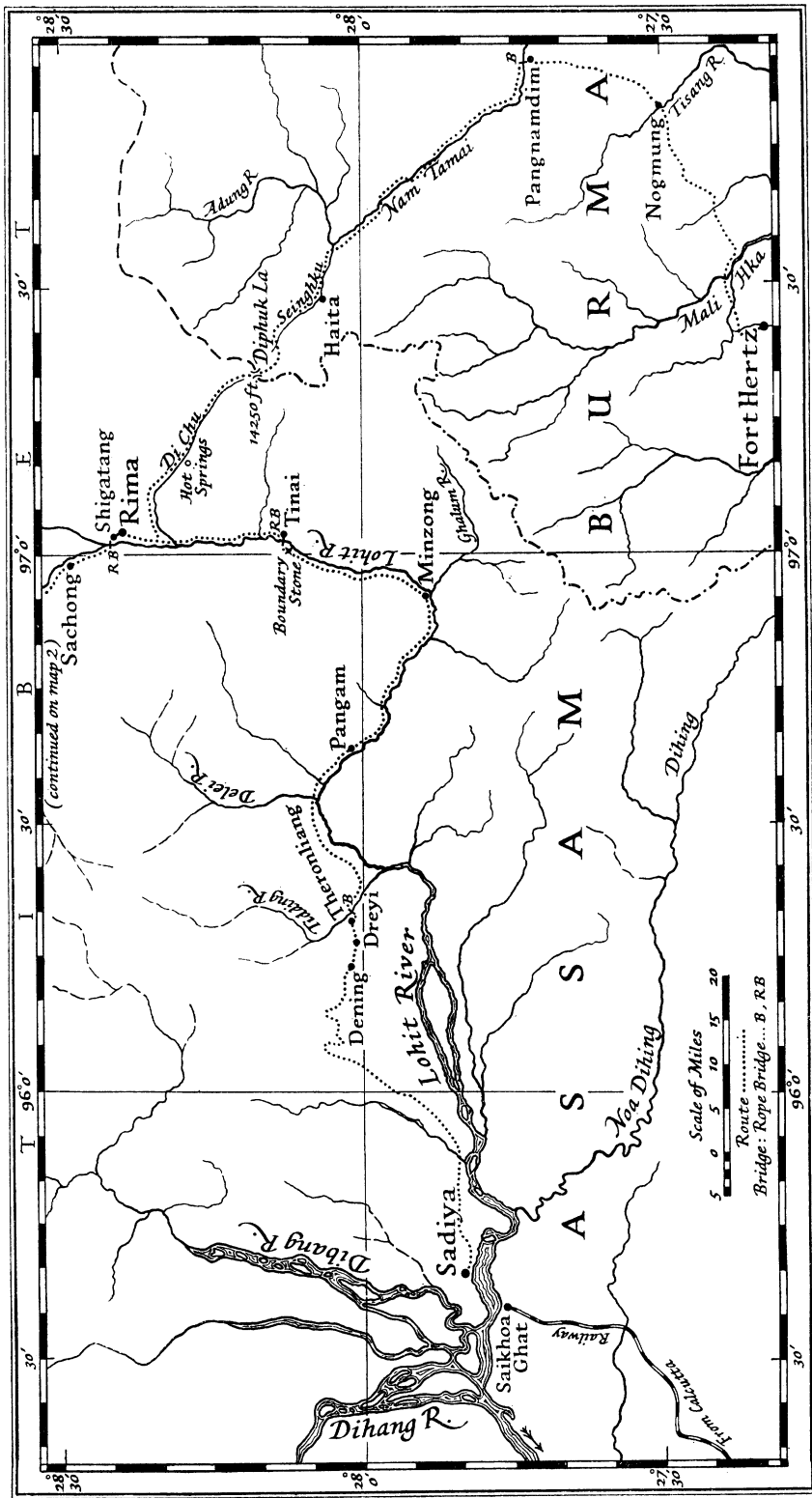
RONALD KAULBACK

IN November 1932 Captain Kingdon Ward asked me to accompany him on a journey into south-eastern Tibet. Needless to say, I accepted with alacrity, feeling more than fortunate to have the chance of learning at first hand from so experienced and well-known an explorer. The objects of the expedition were two: to search for new and rare plants, and to survey the country from Rima onwards. The botanical side of the expedition was wholly Captain Kingdon Ward's province, and it was my job to make the map.

At the end of February 1933 we travelled up from Calcutta to Sadiya—or rather to Saikhoa Ghat, the railhead—by train. Saikhoa Ghat is no more than a tiny village on the left bank of the Lohit, and we covered the last 8 miles from there to Sadiya by car, crossing the river halfway by a ferry, which consists of two native boats connected by a platform.

From Sadiya there are three possible routes through the mountains into Tibet. The first of these is the valley of the Dihang, or Tsang Po, the main stream of the Brahmaputra. This was closed to us on account of the hostile attitude of the Abors, and we should never have got through that way, even if the Indian Government had given us permission to try. The second, the Dibang Valley, besides being comparatively short, and with a pass at its head, is almost uninhabited, and we should have had great difficulty in procuring coolies. The third and only practicable route is the Lohit Valley, which leads up into Zayul, the most south-easterly province of Tibet.

The Lohit Valley is chiefly inhabited by two Mishmi clans, the Digaru and the Miju, which speak different languages and are rather jealous of each other. Formerly they were as hard to control as the Abors, but of late years they have acquired a certain amount of respect for the Government, and now cause little or no trouble. In the cold weather numbers of them come down into Sadiya to find work in the tea-gardens of Assam, bringing goods to trade in the market, such as musk, skins, roots, and certainly quantities of opium. Then, in the spring, they start back on their journey home, and it is at this time that it is least difficult to get hold of coolies to take one through their country.



Map I, showing Mr. Kaulback's outward route as far as Rima, and route of his return journey to Fort Hertz

In Sadiya we spent some days in dividing our baggage into loads of 60 lb. each, and in finding sufficient coolies to take us into Tibet. Mr. Crace, the Political Officer, and his wife were very kind, and gave us a great deal of help, and after a grand farewell dinner with them, we pushed off on the morning of March 9. We covered the first 40 miles to Dening, where the road ends, in the Political Officer's car, while the local bus followed with personal baggage and our three Tibetan servants. The greater part of our goods had already been sent to Dening by bullock-cart. The coolies for this stage of the journey had been recruited from the Digaru Mishmis. There were sixty-five of them under the nominal command of a certain Nimnoo, reputed to be the most influential Headman among them, but this meant little as the Mishmis are very independent, and their Headmen have little real control over them. We spent that night at Dening, and next morning set off for Dreyi, about 12 miles uphill. We were held up here for one day owing to the non-arrival of some of our coolies, but on the 12th we climbed the last 1000 feet to the top of the Tidding Saddle, and descended to Theronliang, the last Rest House, on the banks of the Tidding River. That night Captain Kingdon Ward held a conference with the various local Headmen, and by dint of much diplomacy persuaded them to provide transport as far as Pangam, where we were to be met by Jaglum, the most influential man on the Upper Lohit.

Next day we crossed the river by the remains of the suspension bridge built in 1912 by the Sappers and Miners, and found ourselves in Unadministered Territory. The mule track ends on the western bank of the Tidding river, and from there on the path is narrow and bad. Up the Lohit Valley the steepness of the mountains is amazing, but nevertheless they are covered with dense forest, through which the path winds in and out. One can rarely see more than a few yards at a time, owing to an undergrowth of great bramble thickets, and when one does come to an open space, so much does the valley twist and turn that a view of 2 miles up or down is quite exceptional. We had a considerable amount of rain on this part of the journey, which made progress slow, and we averaged only 6 to 7 miles a day, although as a rule we marched for about seven hours. I found moreover that to be tall was a handicap, and often had to beware of overhanging branches, under which the Mishmis could pass with ease. They, on the whole, are a small race, 5 feet 6 inches being quite a good height among them. They bear a close resemblance to the Darus and Khanungs of northern Burma, and it seems probable that they all lived originally in south-eastern Tibet, being driven south by an influx of Tibetans consequent upon pressure from China—the Khanungs and Darus to the east, and the Mishmis to the west of the Lohit-Irrawaddy Divide.

Though cheerful enough among themselves, the Mishmis were a surly lot in their dealings with us, always arguing, and generally making themselves unpleasant. They are very inquisitive, and numbers of them would squat outside our tents to watch us whenever we made a halt. During the sixteen days we spent in their country we saw few villages, although there are quite a number hidden away off the main path. Each village consists of two or three huts, some 40 feet long, built of bamboo and thatch, and surrounded by a few patches of buckwheat and maize. Both Digarus and Mijus run a very profitable business as opium smugglers, and we passed a number of clearings where the

most lovely white poppies were flourishing. Besides selling the opium, they use it largely themselves as a stimulant, and we frequently saw our coolies, before the start of a march, taking a few whiffs of it from primitive water-pipes of bamboo. They are very fond of tea, and it seems strange that they grow none themselves, more especially since Assam proper is only next door, so to speak. I can only ascribe this to laziness, as the Kachins of northern Burma manage to grow it under conditions very similar to those in the Mishmi Hills. Bamboo plays a large part in the lives of the Mishmis. Indeed, it is hard to see how they could exist without it, as from it they make almost every conceivable thing: bridges, ropes, arrows, helmets, bow-strings, baskets, houses—even cooking-pots.

Since on this part of the journey we were constantly on the move, we hardly expected to see much in the way of fauna, but even so it was rather disappointing. Although as we went through the jungle the only noises to be heard, apart from the chattering of the coolies, were the cries of birds, we seldom saw any, and then as a mere flash across the path from one tree to another. As for mammals, we saw two or three squirrels and flying-foxes, caught some small bats, and on one occasion heard barking deer: nothing more thrilling in the way of reptiles and batrachians than some common brown lizards, a tree-frog, a large toad, and a snake.

On March 18 we reached Pangam, on the edge of the Miju country (without however seeing the village), and were met by Jaglum with a fresh batch of coolies. Five days later we came to Minzong, and camped there one day. Minzong is at the confluence of the Ghalum and Lohit rivers. The former is now no more than a little stream some 15 yards wide and very shallow, which flows down a large valley a quarter of a mile across at the base. Since after Minzong the whole character of the Lohit Valley changes from purely water-worn to glacial, it seems probable that in the days when a glacier stretched right down to Minzong from the north, the Ghalum must have been the main stream of the Lohit, and that owing to the disappearance of the ice-cap it has since shrunk in size. This supposition would explain the discrepancy in breadth and importance between the Ghalum itself and its valley.

Leaving Minzong, we gradually emerged from the deciduous region, and entered the pine country, and on March 28 we were greatly cheered to see in the distance, for the first time, the snow peaks of Tibet. Next morning we passed the Boundary Stone, on the right bank of the river, 2 miles south of the village of Tinai. The stone has an English inscription marking the end of the road built in 1912 by the Sappers and Miners, though the road itself has been swallowed by jungle long since. There is also a Chinese notice on the rock showing the limit of their claims when they overran Tibet in 1910. I say "Boundary Stone," but no one seems to have any very clear idea as to where the boundary actually is in the Lohit Valley. To judge by the map issued by the Survey of India, the Sadiya Frontier Tract extends at least as far north as the confluence of the Di Chu and the Lohit. But since, once north of this stone, the inhabitants of the valley are found to be exclusively Tibetan in dress and custom, and to speak the dialect of Zayul, and since tribute is paid to the Dzong-pön of that province from Tinai onwards, there seems to be no doubt that the frontier (*de facto* at least) is at this point.



Jaglun (with pipe) and Miju Mishmis



Cloth-weaving at Shigatang



Rice-fields in the Rong Tö valley



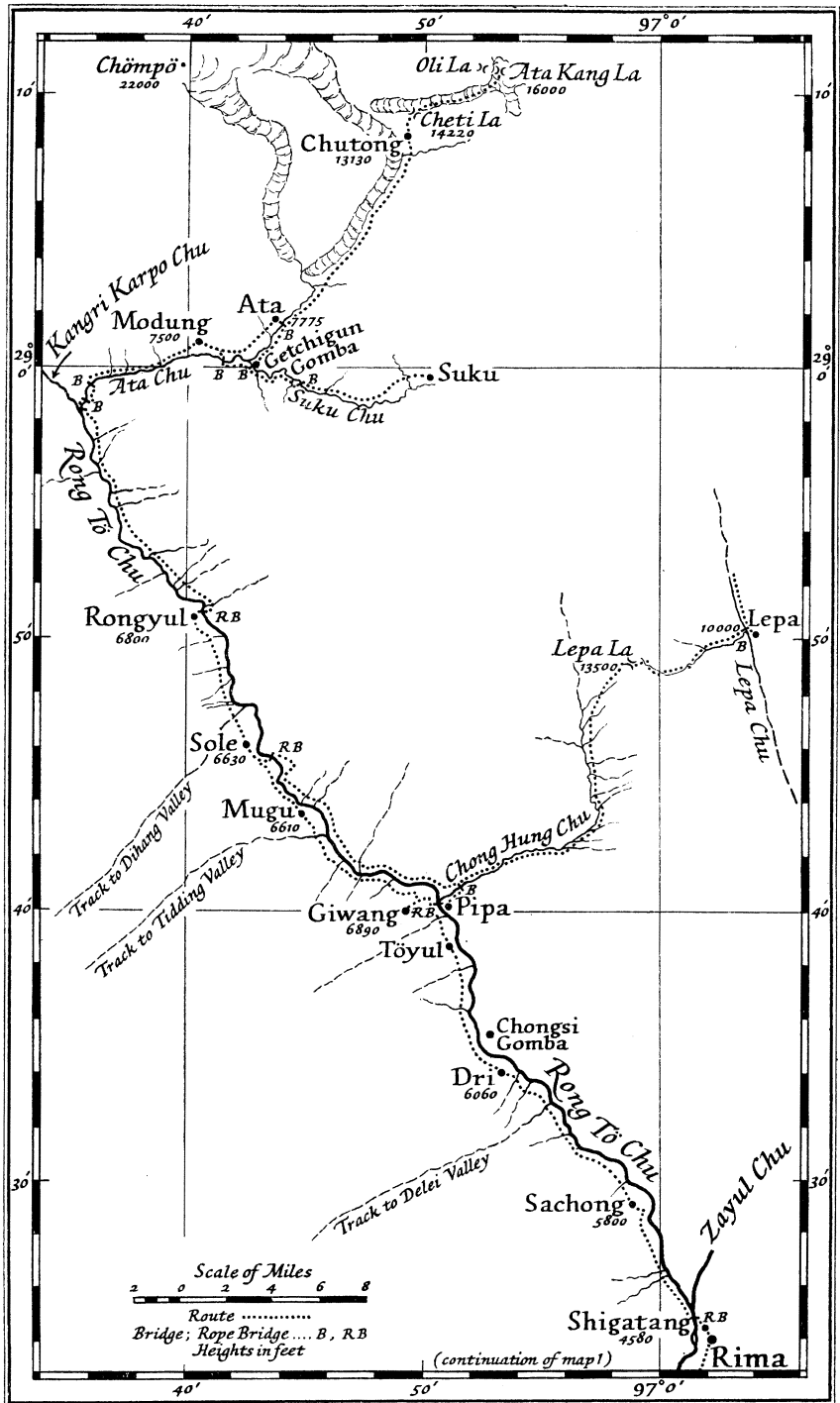
Ploughing at Rima

On the afternoon of the same day we crossed the Lohit by rope bridge, and camped close to Tinai. These bridges are most interesting. They consist of a single rope, made of twisted bamboo, stretched across the river. Each man has a wooden slider which he puts on the rope, and to which he fastens himself by leather thongs. If the two banks of the river are more or less of a height, he pulls himself across hand over hand ; but if, as in this case, there is a considerable slope, he just lets go and slides over at speed. It is a slow business crossing these bridges with a train of coolies, as each load has to be taken over separately, and on this occasion we took about five hours over the job.

At Tinai we camped in the rice fields, the first rice we had seen. Out of the jungle at last, we could see several miles up and down the valley, and after the restricted views of the last fortnight it was almost like being in a new world. The path improved also, and on April 2, after a steep climb of 1000 feet, we dropped down on to the level floor of the Rima Valley, which was dotted with herds of cattle and ponies. We had sent on Chumbi, our head servant, the previous day, to make arrangements for our arrival, and suddenly we saw a little cavalcade of ponies approaching rapidly. It turned out to be Chumbi and some local Tibetans with ponies for our use. We climbed into some very uncomfortable wooden saddles, covered with red felt rugs, and riding past Rima, a village of twelve houses, we made a triumphal entry into Shigatang, where a crowd of nearly a hundred had gathered to watch us come in. We were formally received by the headman, and taken into his house, where refreshments of buttered tea, walnuts, and rice-spirit were served by his wife.

Shigatang is really only a miserable little village about 1 mile north of Rima. It has three houses and seven or eight small huts. Once a year however it becomes a place of great importance, as during the cold weather the Dzong-pön of Zayul moves down from Sanga-chu Dzong, his headquarters, and takes up his abode there with a large following. Owing to the presence of this official almost all the available space in Shigatang was already occupied, but Captain Kingdon Ward was able to find a barn with a leaky roof to sleep in, while I pitched my tent in the headman's compound. We had also the use of another shack for living-room and kitchen. The houses in this part of Tibet are built entirely of wood held together without nails or metal of any kind. Ingeniously constructed of interlocking logs, the walls are surprisingly weather-proof, but the roofs, which are made of roughly cut boards, often let in the rain. Four rooms seems to be the average number, and as a general rule the houses stand on piles 8 to 10 feet high. The space underneath is used as a stable for the cattle, ponies, and pigs, though I think the main idea of the piles is to keep the houses dry. All round Rima, and up the Rong Tö Valley as far as Rongyul, rice, barley, and wheat are extensively cultivated.

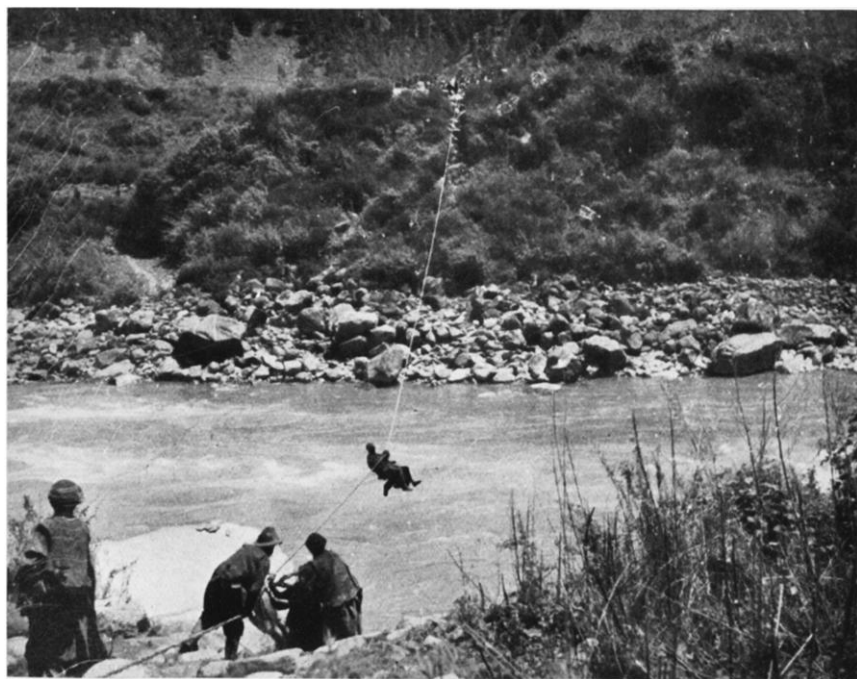
Until quite recently this district of Rima was used as the penal settlement of Tibet, as it was considered to be the hottest and most uncomfortable place in the country, and the present population appears to be the result of inter-marriage between the convicts and the neighbouring tribes on the borders, and now vary in colour from very dark to olive. They speak a strange dialect, and though they can understand a pure Tibetan with comparative ease, they are themselves not always understood by others, owing largely to their pronunciation.



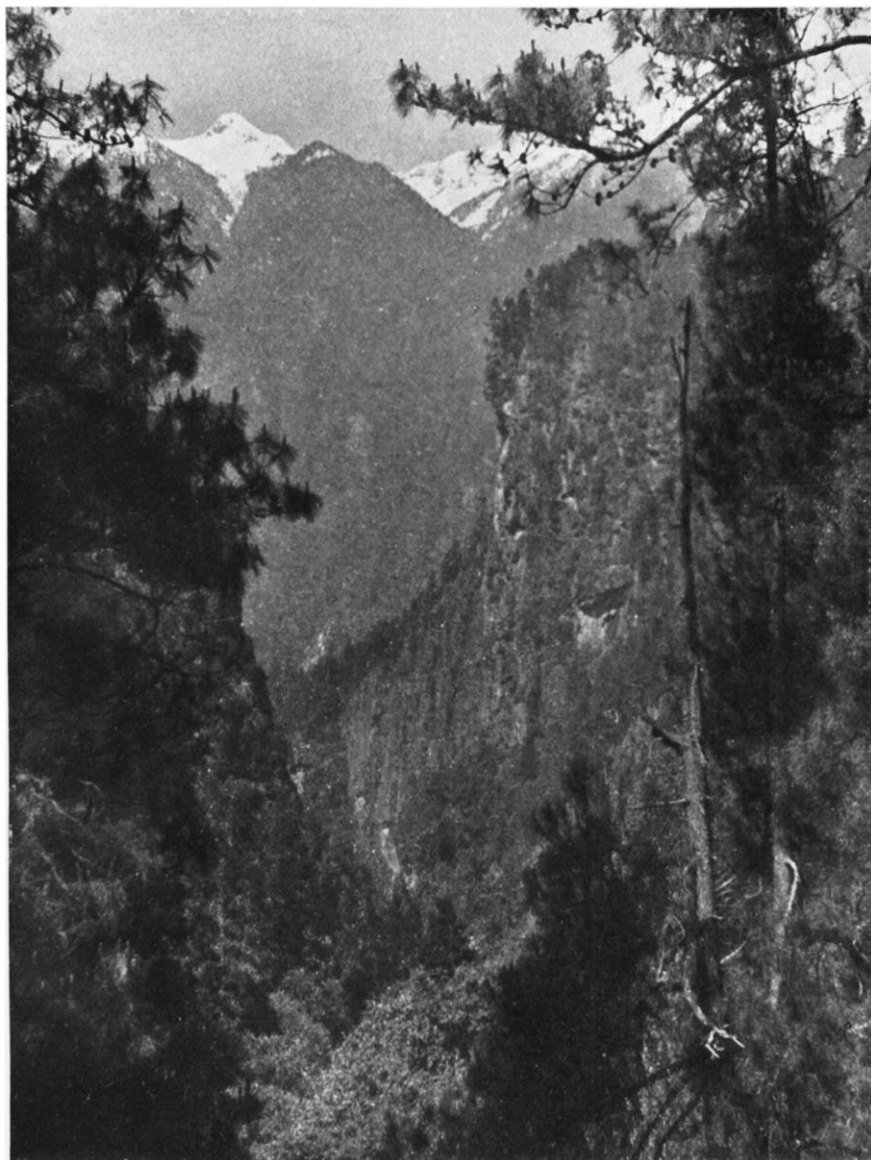
Map 2, showing the more northerly part of Mr. Kaulback's route



Cantilever bridge near Modung



Rope bridge over the Zayul river



The Ata Chu Gorge from near Modung

In 1883 A—K came down the Zayul Chu to Shigatang, hoping to return to India by way of the Lohit Valley. Finding that the Mishmis would allow no one to pass through their country, he turned up the Rong Tö Valley on his way back to Darjeeling. It was our intention to follow his route at least as far as Shiuden Gomba, a large monastery in the district of Nagong. At Shigatang we took observations for boiling-point, giving a height of 4580 feet, which is in fair agreement with A—K's figure of 4650. The height shown on the present map is 5460, but that is certainly in error. After waiting sixteen days for the arrival of some baggage we had sent in advance from Sadiya, we crossed the river on April 18 by rope bridge three-quarters of a mile north of Shigatang, and a short distance below the confluence of the Zayul Chu and the Rong Tö Chu, and moved up the valley of the latter. At this confluence it was interesting to see that while the Zayul Chu was coming down perfectly clear, the Rong Tö Chu was milky with glacier mud. A—K had halted at Duntang, a small hamlet about 3 miles from the bridge, but we continued for a further 2 miles and spent the night at the much larger village of Sachong, on top of a steep spur.

The Rong Tö Valley is glacial in origin, averaging about a mile across at the base and with steep sides. The rocks are entirely of granite, and the floor and sides are covered with pine forest. The path is good and marching easy. Every village has its terraced rice fields, cut in the alluvial fans washed down from above by the side streams, and in many cases these are irrigated by water brought down from as much as 1500 feet above the crops in well-built flumes of logs.

We left Sachong next morning, and made a march of about 10 miles to Dri, a village of seven houses, where we found half a dozen Mishmis, who had spent the winter there, earning their keep by making baskets and doing other odd jobs. They came from the head waters of the Delei River, along the path indicated by A—K on his map, and it was interesting to find that some of them recognized Captain Kingdon Ward from his expedition into the Delei Valley of 1928. The whole way up the Rong Tö Valley we had a considerable amount of rain, as the hills to the south and south-west are comparatively low, few ridges exceeding 13,000 feet in height. As a natural result most nights were cloudy, but I was very lucky in that I generally found a starry sky if I badly wanted to take a latitude. On the 22nd we reached Giwang, and remained there nine days. There was no point in hurrying our journey along, as the Ata Kang La, the 16,000-foot pass which marks the boundary between Zayul and Nagong, could not possibly be open until the end of June at the earliest. The main villages in the valley are situated at the ends of the coolie-stages, and we lived in considerable comfort in the various houses which had rooms set apart for the use of travellers, only being worried by fleas and leaky roofs.

At Giwang word came in that a Mishmi courier who was coming up from Sadiya with mails and Rs.500 in silver was only a short distance behind us. We were very excited at this, but he failed to arrive, and our hopes gradually dwindled away. A fortnight later at Sole we heard that he had been robbed and murdered. The Dzong-pön was most energetic in his search for the criminal, and interrogated the entire countryside for a radius of 10 miles, but without result. However by good fortune, although the money was never recovered, the mail was found later on by the side of a path. Two miles below

Sole the main path crosses the river by rope bridge and continues on the left bank. A—K had followed this, while we, on the contrary, remained on the right bank for a time. Directly we heard of the courier's death Captain Kingdon Ward started back for Shigatang to see the Dzong-pön about the matter, and I took the baggage on to Rongyul, and waited for him there. He covered the six marches there in two days, remained there only twenty-four hours, and did the seven stages back in three days—a truly magnificent effort.

On parts of the march up to this point we passed through masses of the most beautiful sky-blue irises growing as daisies do in England. We found also wild strawberries and raspberries in profusion, and pear, peach, and walnut trees, though the last three were not in fruit. Rongyul, about 6800 feet high, is the most northerly village in this part of Zayul where rice is grown.

On May 24 we started off again, crossed the river by yet another rope bridge, and once more followed in A—K's footsteps along the main path. That night we camped in the forest, about 4 miles south of the junction of the Kangri Karpo Chu and the Ata Chu, which together form the Rong Tö. Sandflies were troublesome at this camp. Next morning we came to the mouth of the Ata Chu Gorge, which was a remarkable sight. The river foams down between vertical walls of rock, perhaps 40 yards apart, and 1500 to 2000 feet high, having literally cut its way through the solid granite. A quarter of a mile from the mouth of the gorge there is a cane suspension bridge leading across to the right bank of the river, and from there one has a steep climb of 1000 feet up the rock wall, over a bad path which consists largely of ladders of notched logs, and narrow galleries of wood fastened to the cliff with pegs, with a clear drop into the river beneath. From the top of the climb the way gradually leads down again to within 200 or 300 feet of the water, and then continues more or less easy going to Modung, a prosperous village half a mile from the river. A—K remarked, when he passed through, that the Headman of Modung was very rich, and it seemed as though history were repeating itself, for the present Headman is also undoubtedly wealthy, and has, being very pious, richly endowed the monastery of Getchi, some 4 miles from the village. As the office of Headman is hereditary, it is more than probable that the present holder of the title is the grandson of A—K's acquaintance. We found all but one of the Headmen to be pleasant and obliging, the exception being at Dri, and even he changed his tone after his village had been fined Rs.150 by the Dzong-pön for the theft of a stores box. The inhabitants of Zayul profess Buddhism, but, apart from the Lamas, they are not very earnest worshippers, and A—K records that they have full belief in the sacrifice of pigs and fowls, and that they burn their dead like the Hindus. We however came across no evidence of blood sacrifices, and saw no funerals of any kind at all. The usual practice of erecting prayer flags and heaps of Mani stones prevails here, as it does everywhere else in Tibet, and also that of using prayer wheels. Incidentally, it amused us to see large non-stop prayer wheels being driven by water power, so that a ceaseless rain of invocations should pour into the ears of the gods.

After two days at Modung we moved 6 miles up the valley to Ata, the last village south of the Ata Kang La. Two miles from this village the Ata Chu has its source in a large glacier roughly 1000 yards in breadth. On the way Captain Kingdon Ward's only pair of climbing boots was lost through the

inefficiency of one of the coolies, who removed them from the basket in which they had been put, and balanced them on top of a load, so that in crossing a cantilever bridge over the Ata Chu they fell into the water beyond hope of recovery. A very sad blow. The mercury from A—K's artificial horizon had leaked away before he reached Shigatang, so that the whole of his way from there on he was unable to correct his map by taking latitudes. It says a great deal for the excellence of his work that at Ata—after approximately 60 miles, during many parts of which it was no easy matter to make a traverse—he was a bare 6 miles in error. Indeed, from first to last the accuracy of his observations both in survey and in general matters was very great.

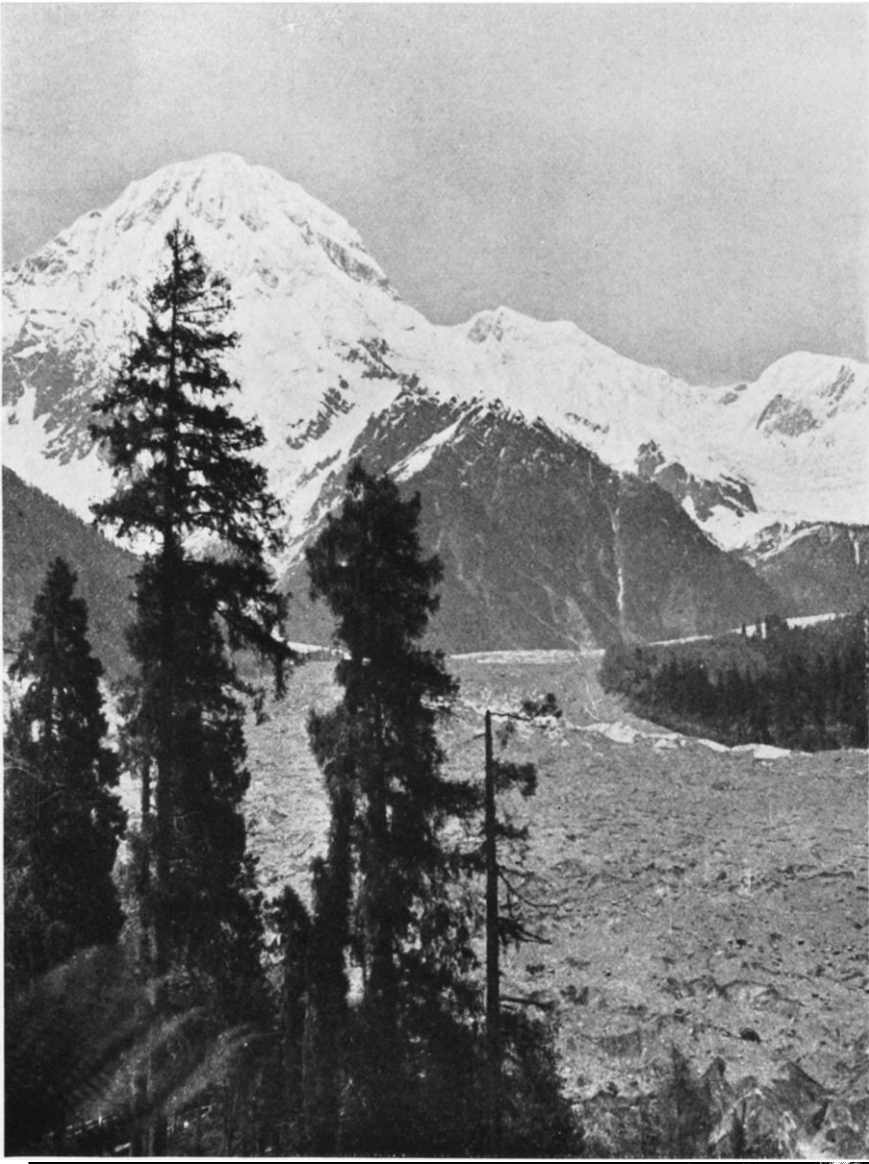
We remained in this neighbourhood from May 29 till June 20, as the Cheti La—a pass south of the Ata Kang La—was still closed. Ten miles north-west of Ata is a fine snow peak of 22,000 feet, beautifully regular in shape, and called by the natives Chömpö. Moving to a camp up a side valley in the direction of this mountain, we found a second glacier almost equal in size to the first. Both these glaciers are in evident retreat. A—K had mentioned that by following a stream which flowed from the east into the Ata Chu, 3 miles above Modung, one came after 8 miles to the village of Suku, but that he had not been there. We verified this, finding that, as usual, he was quite correct, and furthermore that there was an excellent path continuing beyond Suku, three days march to Sanga-chu Dzong. The Headman's house was interesting, as, unlike the houses we had already seen, the entire courtyard of 20 yards square was roofed in, and divided into stalls for cattle, of which there were a large number in the vicinity, as well as a flock of thirty sheep.

On June 20 we felt that the Cheti La at least ought to be open, and accordingly left Ata and marched up the left side of the valley above the glacier for some 6 miles, much of the way lying through a forest of rhododendrons. We camped that night at 9780 feet, and next day had a stiff march to the camping ground of Chutong, at just under 13,200 feet. We were on the edge of the tree-line, and below us and on both sides were thousands of rhododendrons, the sight of which rejoiced Captain Kingdon Ward's heart. The camping-ground at Chutong is on a small ledge, the ground in front sloping very steeply down to the glacier, and behind rising as abruptly for the last 1000 feet to the Cheti La. We intended to wait here a few days for flower collecting, and accordingly sent back our coolies to Ata. Our first day there was fine and clear, and looking south we could see right across to the Mishmi Divide, now covered by the clouds of the monsoon. In the morning we went up to the pass, which is shaped rather like a bowl, with a hollow, 100 feet deep, in the middle. The north side of the pass is very steep indeed, and projecting over the lip was a large snow cornice effectually blocking the way, so we realized that there would be no hope of getting over for at least ten days. After this we had fourteen days of almost continuous rain, during which time we wandered about the slopes looking for flowers, or sat in a rough shelter in front of a fire, playing chess. As far as I was concerned, botanizing simply meant that I collected anything I saw, in the pathetic hope that perhaps something would prove of value. It was very seldom indeed that I brought back anything but rubbish. Occasionally, one of us would wander up to see if the pass were clear, and at last Captain Kingdon Ward decided that we could cross, and sent for the coolies.

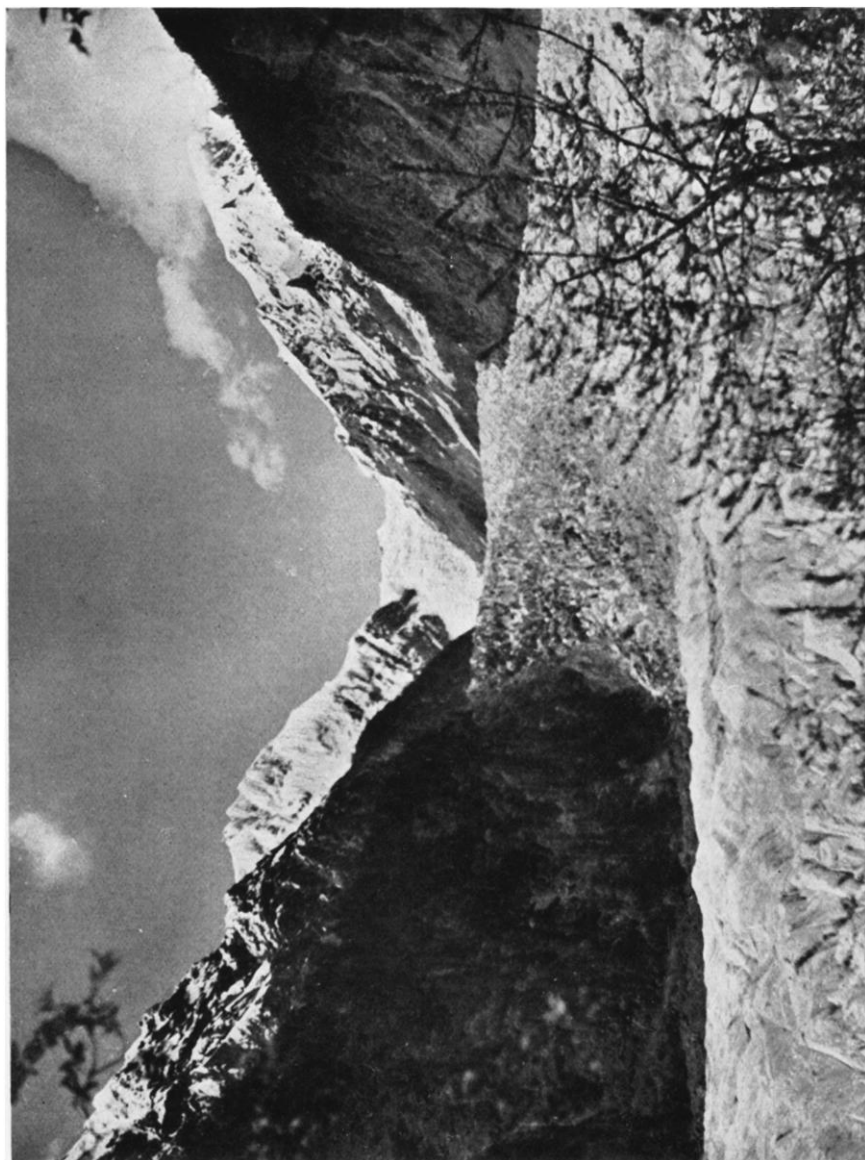
On July 10 we continued over the Cheti La (14,218 feet) and descended on to a glacier beyond, which slopes down steeply from east to west. A—K stated that the foot of this glacier was joined to the main glacier I have already mentioned, and which rises from the slopes of Chömpö, but actually there is a space of 400 yards between the two. Unless it is retreating at a speed of 24 feet a year, he must therefore have been mistaken. We camped on the glacier for six nights, rather more than a mile below the Ata Kang La, finding it very hard to keep warm while we were there. The glacier starts by flowing from south to north from immediately south of this pass, but after 2 miles it divides into two, one arm continuing towards the north, while the other turns sharply west past the Cheti La. The Ata Kang La is on the saddle where these two branches separate, and is about 16,000 feet high. Half a mile to the west, and 500 feet higher, is a subsidiary pass, very steep on both sides, called the Oli La, which is only used when the snow on the glacier has melted, and it is hard to negotiate the crevasses in the ice. I had no permission to go beyond the Ata Kang La, and so, on the morning of July 15, I accompanied Captain Kingdon Ward and his coolies just as far as the summit of the pass, and there said good-bye. I felt very gloomy, as much on account of parting with a fine companion as of having to turn back when only 20 miles from Shiuden Gomba. I watched the little party dwindle to specks on the snow to the north, before finally turning back down the glacier to our last camp.

I left the next day, and without stopping at Chutong, reached Ata the following evening. Pinzho, the cook, came back with me, while the other two servants stayed with Captain Kingdon Ward. Camped on the glacier—and even towards the end of our stay at Chutong—stores had begun to get rather low, but when we arrived at Ata, we found that they had just killed one of their cattle (which are all half-bred yaks) and so we were able to make up for short rations. We moved steadily back down the valley, stopping however at Getchi Gomba, as the result of a pressing invitation from the monks. It is a simple little place, with houses to hold thirty lamas, and a small whitewashed temple of one room and an attic. We arrived at an awkward time for our hosts, as they were just beginning a silent fast of two days. During the frequent religious services, the silence rule did not apply, and they were able to let themselves go with prayer-trumpets, gongs, cymbals and chants: at all other times they were restricted to signs. Just before I left the monastery the silence ended, and almost the first words to be heard were addressed to me, to tell me that the monastery was thinking of building some new houses, and that funds were short.

We reached Sole without incident on July 26. A—K had stated that there was a nomad camp, he believed, called Lepa, some 25 miles up a valley opposite Giwang, on the left bank of the river. I was anxious to go to Lepa, and crossed the Rong Tö by the rope bridge below Sole, taking only three coolies with me, in order to travel as light as possible. At the end of 10 miles this valley, from running east and west, turns abruptly to the north. After another 5 miles there is a steep climb of 4500 feet to the top of the Lepa La, a pass 13,500 feet high, over a range of mountains which runs almost due north and south, and which may be a continuation of the Neching Gangra range. A few miles east of the pass, at an altitude of 10,000 feet, is Lepa, by no means a nomad camp.



Chömpö: rubble-covered glacier in foreground



Ata: main glacier and ice-fall

but a village of ten houses, each with proper stables for the cattle, of which there are large numbers in the place. Close beside it flows the Lepa Chu, from north to south. A fine mule track runs up its valley to Sanga-chu Dzong, but although the river is a tributary of the Zayul Chu, there is no path of any sort going south, owing to a most difficult gorge lower down. At Lepa there are many fields under barley, but the crop, which was ripening when I saw it, looked poor and stunted. I spent one night in Lepa, and then hurried back to pick up Pinzho and the baggage at Töyul.

On August 8 we reached Shigatang once again and found it a changed place. The Dzong-pön had gone back to Sanga-chu Dzong for the hot weather, taking his camp followers with him, and I felt as if I had walked into a modern version of Noah's Ark, for all I saw on the first day were two aged crones, two old men, two goats, two pigs, two hens, and two small donkeys, though to be strictly truthful, I must admit that I found three or four other people the next day. The great problem now was to get coolies, and I had to scour the countryside for two days' journey round about to find them, so empty had the district become with the departure of the Governor.

My route now lay up the Di Chu Valley, and over the pass into north Burma. We left Shigatang on August 19, and made a fairly short march to the confluence of the Lohit and the Di Chu. The following day we turned up the Di Chu Valley, which is steep and very narrow, and thickly forested for most of its length. For the last 5 miles of its course the river has the stupendous gradient of about 400 feet a mile, although higher up the slope is much smaller. We had to move slowly up this valley on account of a bad path, and we had a certain amount of difficulty in camping at night, as on the steep slopes we were seldom able to find a level spot large enough to take even a tent by itself, let alone to provide room for Pinzho and the coolies. On August 23 we camped close to some hot springs. People do not as a rule associate Tibet with volcanic activity, but as a matter of fact there are quite a number of hot springs scattered about, even up to 13,000 feet. These in the Di Chu Valley are only about 11,000 feet high, and are quite small and uninteresting to look at, though the water is too hot to get into.

There were three Tibetan hunters there when we arrived, out after Takin. Both sides of the valley bore hundreds of Takin tracks, and the hunters assured me that the animals come down into the valley for two months every summer, specially to take the waters. The method of hunting which these men favoured was amusing. The hunter goes out in the evening, and lays a large number of snares round the springs. Before dawn next morning he takes up his position in some convenient bush. After a bit, with any luck, there will come a crashing and breaking of branches as some beast blunders into a snare, and gets roped up. Instantly all is excitement. The hunter loads his aged matchlock and creeps up stealthily to within 10 or 12 yards of his trapped victim. With great care he fires his gun, and there is a tremendous explosion. There are no sights on the weapon, and the bullet may go almost anywhere, but honour is satisfied, and throwing caution to the winds, he dashes forward with a knife and kills the animal. We stopped here a day to replenish our larder with fresh meat, and the coolies seized the opportunity to go hunting themselves. They showed how fond they were of meat by eating the liver and the heart raw.

The next day we made a march of nine and a half hours, and camped in the last fringe of forest, about 5 miles from the pass. On August 27 we crossed over into Burma. The pass, which is called the Diphuk La, is 14,250 feet high, and after struggling up, it was most cheering to find that the top was covered with a delightful carpet of blue poppies and small primulas, instead of the plain barren rock, which was all that could be seen from below. A thousand feet below the pass, on the Tibetan side, are two small snow-fed lakes, each about half a mile long, and of the most glorious sapphire-blue. After a short rest on top of the pass, we marched about one and a half hours down the other side to a cattle camp at about 13,000 feet at the head of the Seinghku Valley. This camp consists of three hovels, with a population of three men, two old women, and two small girls, who look after the fifty or so half-bred yaks which make up the herd. The cattle are all brought up in the summer for grazing, from lower down in the valley. We camped 200 yards from the settlement, and I paid off my Tibetan coolies; they all went back with the exception of two, who said that they would like to come with me to Fort Hertz, as they had a great desire to see the world. They were excellent coolies and always cheerful, so I agreed, and they made themselves useful by helping Pinzho, until a fresh batch of coolies arrived from Haita three days later. These new men were Khanungs, and as soon as they saw my Tibetans they went for them with knives. I asked what was the matter, and was told that these two men were well-known slavers, who had stolen some children only a few months before, and taken them back into Tibet. The culprits blandly admitted this, and said that under the circumstances perhaps they had better be off. They picked up their things, and had vanished from sight within half an hour. Slavers or not, they were good fellows, and I was sorry to see them go.

On August 31 we started off again, and camped in the forest at 9000 feet, with a roaring fire outside the tent to discourage the leeches, which were present in large numbers; and the next two marches—the first down to Haita, and the second from there to the Adung–Seinghku confluence—were about as bad as they could possibly be, as far as these pests were concerned. The first of these lay through dripping jungle, and the second through long grass. Below this confluence the river is called the Nam Tamai, and from there on we had never more than ten or twelve leeches on a march, and our only trouble now was shortage of supplies. Twice we were able to get hold of a fowl, and on two or three occasions some fish, but except for these the only food available was corn cobs and cucumbers. Luckily we still had a little rice, and a good supply of butter and tea, and although it meant pretty short rations there was no actual discomfort. There are a few rope bridges in this part of the country, similar to those found in Zayul, but by far the greater number of bridges are built on the suspension pattern, of cane, with a footpath of a couple of bamboos. They give one a most uncomfortable feeling of instability with their rocking and swaying. Travelling down the Nam Tamai there was no longer any need for a tent, as at every convenient camping-place there is a bamboo hut, built for the Assistant Commissioner at Fort Hertz, who makes a journey once a year as far as the Adung–Seinghku confluence. The valley is not very thickly populated, but sometimes we came across scattered villages, the huts of which strongly resemble those of the Mishmis.



Camp on moraine below the Ata Kang La



Approaching the top of the Ata Kang La



Small temple, Shigatang



Nogmung

On September 15 we reached Pangnamdim (without seeing the village which is up the slope somewhere), and the next morning crossed the Tamai by a mule suspension bridge, supported by steel cables. We now climbed out of the Tamai Valley, our immediate objective being the large Shan village of Nongmung, on the banks of the Tisang River. This took us four days to reach, during which the path led across three steep ridges and one river. Nongmung was the first civilized-looking place we had seen since Sadiya, with its houses neatly arranged in rows, and everything comparatively neat and clean. It had no shops, but was very proud in the possession of a school, at which the ages of the scholars in the one and only class varied from twenty to about four. There was a Shan Government official there, who was most helpful in getting new coolies. He welcomed me on my arrival with a large dish of plantains and a mug of Nestle's café-au-lait (another sign of civilization), both of which I much appreciated.

At the end of the path the river bank at Nongmung was covered all day with a fluttering carpet of gorgeous green-and-black butterflies, and every morning at sunrise we were woken by a chorus of gibbons, saluting the day. Altogether a very pleasant spot. We remained there three days in complete idleness, for the usual reason—waiting for coolies—and then, making two double marches, reached Fort Hertz on the evening of September 24, just two hundred days since leaving Sadiya.

DISCUSSION

Before the paper the PRESIDENT (Major-General Sir PERCY COX) said: Mr. Kaulback is a young Rugbeian and Oxford undergraduate, and on this, the first occasion on which he was able to materialize his ambition to travel and explore, he had the very good fortune of getting into touch with Captain Kingdon Ward, whom we all know so well; a Gold Medallist of this Society, who has frequently in the last five-and-twenty years read papers to us and written in the *Journal* on exploration on the Chinese frontier of Tibet, and the region that we are to hear about this evening, the Assam-Burma frontier of Tibet.

We are fortunate, too, in having with us two old hands, Colonel F. M. Bailey, also a Gold Medallist of this Society, and Lord Cranbrook, both of whom travelled considerably in that region, an extraordinarily interesting one, as it includes the headwaters of those fine rivers, beginning from the east, the Yangtze, the Mekong, the Salween, the Irrawaddy, the Tsang Po, and the Brahmaputra; where there is an enormous amount, even now, to be done in the way of exploring the divides and collecting, in all branches of natural history.

Unfortunately, Mr. Kaulback, owing apparently to a clerical omission, was referred to in Mr. Kingdon Ward's passport not by name but as "and party." When it came to the passport being examined by the local authorities, this stumped them altogether; they would not allow Mr. Kaulback to enter as "and party," and so—very bad luck for him—he had to turn back. Mr. Kingdon Ward went on, and we have heard to-day by telegram that he reached the Salween, travelling eastward after Mr. Kaulback left him. Mr. Kaulback is going to deal with the part of the journey up to the moment he left Mr. Kingdon Ward.

Mr. Kaulback then read the paper printed above, and a discussion followed.

The PRESIDENT: As I told you, we have Colonel Bailey with us, who just before the war went on an expedition to discover where the Tsang Po cut through the mountain range and came down to the Brahmaputra. I will ask him to speak to us.

Colonel F. M. BAILEY: The only portion of this journey that I know is up to Rima. From Rima the lecturer went off the track I took. There have been great changes since I came down the Lohit Valley in 1911. In the first place, what took me seven days Mr. Kaulback did in a few hours in a car. It took me seven days walking through the jungle and very often cutting the way for several hours at a time. In my day the Mishmi had no umbrella. In other ways, his clothing and properties seem to be very much the same.

The lecturer said he could not vouch for the fact that the *takin* go to take the waters of the hot springs. I can. I went to try to get *takin*, first of all, on the Western-China frontier. I failed to get them there. I spent nine days hunting them, but I found nothing but old tracks in that region. I discovered that *takin* move about in herds and can be found at certain times in certain places. When I went to the hot spring which Mr. Kaulback visited there were many hundreds there, actually drinking the water. I lived opposite them for three days, and in the course of that time I shot six, the skins of which I took back with me. I saw those animals standing in the hot water, fighting to get it, and I saw one bull take a calf, who had come too much forward and was interfering with him, and throw the calf right up in the air. I had great difficulty in getting up to the springs. I do not know what the road is like now. It took me three days to reach them from the main alley, crawling over slippery rocks, in the rains of July. I did not go over the pass at the head of the valley, as it was off my road. I was trying to get back into India as fast as I could. In fact, I got into the country by accident.

I heard no good of the Mishmis. The first European visitors to the Lohit valley were two French priests, Krick and Boury, who were trying to enter Tibet; they were killed by the Mishmis in 1854. Mr. Needham, the Political Officer at Sadiya, nearly reached Rima in 1887, but found the forest humming with arrows and bullets, and decided to return. His successor, Mr. Williamson, in 1911 penetrated some distance up the valley. Later in the same year he was murdered by Abors. I intended to have a look at the Mishmis and see whether they would take me through their country or not. The first night I camped, the Tibetans ran away and left me with the Mishmis. I had nothing to do but go on. With great difficulty I got through to Assam.

THE PRESIDENT: I think you will agree with me that we have had an extremely nice lecture. As you know, this is the opening of Mr. Kaulback's career as a traveller and explorer, and he evidently is a man of great promise. I can hardly imagine a neater lecture. His slides have been extraordinarily well arranged so as to fit in smoothly with his talk, and have run very excellently. As to his travels, he made little of the privation from the food point of view, but it must have been extremely severe at times, travelling and working strenuously with nothing but rice to eat. I have been in the same position as regards a rice diet, and it did not seem even to get to curry.

As to the results of his journey, Mr. Kaulback does not claim to have made any great addition to the map, but he has surveyed the country which he went through, and we can be sure that Captain Kingdon Ward will have some more to tell when he returns. Meanwhile, I think we have been very fortunate in getting Mr. Kaulback to give his account of the part that he travelled with Captain Kingdon Ward. I ask you to express your appreciation of his lecture in the usual way.