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AN ADVENTURE TO KANGCHENJUNGA

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T is a far cry from the Sudan Camel Corps, amongst the rolling sands of Kordofan, to the glaciers and mountains that lie around Kangchenjunga. In the spring of 1926, when leave made this journey possible, I found myself in Darjeeling fitting out a party of Mount Everest porters to endeavour to reach a pass that lies to the west of the peak of Simvu, and east of Kangchenjunga.

The preparations entailed four days' hard work in Darjeeling, buying stores and warm clothes, goggles, boots, puttees, etc., for the porters. Without the help of Mr. Shebbeare, the Conservator of the Bengal Forests, and a member of the last Mount Everest Expedition, I do not think we should have started for a week. Besides lending me much alpine kit, he kindly vetted the Mount Everest porters whom he knew personally, and chose the best five from among them and a Sirdar Nur Sung who had been on two of the expeditions. We left for the mountains fully equipped the day that Mr. Shebbeare left for England on leave.

By his advice we took the route along the Phallut Ridge, which gave one time to acquire a better colloquial knowledge of the language, to get on terms with the porters, and to become gradually acclimatized to the increasing height.

The journey by Phallut and Dentam up to Dzongri and the snows is well described in Col. Buchanan's Sikkim Tours. We met the greater part of the kit at Yoksam, whence it had gone by the direct route through Chakung. From Yoksam the track leads through dense jungle to Dzongri, where we made a dump of stores for the return journey.

We pushed on next day up the Parek Chu by Olatang, where the last firewood grows, to the camp of Chematang below Pandim, which had towered before us all the way up this valley. We had left Darjeeling on April 23, and making ordinary marches by Phallut, reached Chematang on May 4. During this period I was principally occupied in learning Nepalese, of which I had by this time acquired a vocabulary of some 300 or 400 words, and in getting to know the porters.

On the morning of May 5 we left the camp at Chematang for the Goycha La and the heart of the mountains. Sirdar Nur Sung and one porter stayed to look after the coolies and the surplus kit that we could not carry on the glaciers. We had equipped only the seven Mount Everest porters for the mountains. Till now we had been on the trodden route.

The Zemu gap that we hoped to reach lies at the south-west end of the Zemu glacier and is a pass of 19,300 feet, connecting the Zemu and the Tongshyong glaciers. I believe that no one had previously entered the Tongshyong glacier.* Dr. Kellas, during one of his many journeys in the Himalaya, traversed the Zemu glacier to where the icefall ends abruptly above the Tongshyong, and from there he could have looked down the Tongshyong valley to the south-east. But it was not known whether the crossing of this pass from the Tongshyong would be a matter of great difficulty, and whether the pass could be crossed on the Simvu or Kangchenjunga side of the icefall.

On May 8 we left camp at Chematang at 7.45 a.m. and arrived on the Goycha La at about 9.15. A wind-driven mist greeted us as we crossed this pass at 18,000 feet and snow fell. It obscured both the view of the Zemu Gap that we should have had in clear weather, and our line of descent into the Talung glacier.

Earlier I had taken bearings on the map, and we pressed on, marching by compass slowly over the pass down a steep descent to the Talung glacier. The snow was very deep and soft, and we went slowly with heavy loads, only able to see a few feet in front.

We camped on a shoulder at 11 a.m. above the Talung glacier bed. Occasionally through snow blown swiftly past, a black rock wall, the south-east shoulder of Kangchenjunga, on the far side of the Talung glacier, loomed large and near. It looked as if we were camped right beneath it. About ten a constant echo of avalanches filled the mountain gorges. Until we re-crossed the Goycha La they remained a daily danger.

All that night snow fell in a driving gale, threatening the tent ropes, and thunder echoed through the hills. With the day the storm had died, but snow was still falling. I had long pored over the map and considered compass bearings. When at 8.30 a.m. on May 6 the snow had not abated, I decided to move. The place to avoid appeared to be the far side of the Talung. Again by noon the roar of avalanches of new snow falling from the steep mountain wall opposite was filling the valley.

There was marked on the map a chu running from near the Goycha La into the Talung glacier, and this by great good fortune we struck, and steering very slowly through snow, now thigh-deep, we made for the centre of the glacial moraine. Here we should be clear of avalanches, and here, according to the map, by going south-east we should eventually come to the end of that mountain wall where the Tongshyong glacier pours into the Talung. At the head of the Tongshyong is the Zemu Gap. At one period during that day I realized the dangers our position held. In avoiding that threatening shoulder opposite, we had moved below one of Pandim's north-eastern glaciers. An avalanche here, after all this newly fallen snow, would submerge the whole party. On our return

* In this Captain Boustead was mistaken. In April 1925 Mr. N. A. Tombazi had followed much the same route over the Guicha La and up the right lateral moraine of the Tongshyong glacier; but crossed about halfway up to the left-hand moraine, whence he reached the Zemu Gap, but was unable to go farther. See Account of a Photographic Expedition to the Southern Glaciers of Kangchenjunga by N. A. Tombazi, Bombay, 1925, reviewed in $G. \mathcal{F}$., Jan. 1926, 67, 74. journey the hanging icefall broke away at this very place, and crashed into the valley down the slope we had previously crossed.



Sketch-map from the map in Mr. Freshfield's paper "Round Kangchenjunga," showing Captain Boustead's route. Mr. Tombazi's route diverges to the eastern lateral moraine of the Tongshyong Glacier, and reaches the Zemu Gap but does not cross it

About 1.0 a momentary lift in the snow-cloud showed us to be on a safe part of the glacier bed. We camped, and all that night of May 6 it blew, and the snow fell. We were soaked through, and having seen nothing clearly from leaving the Goycha La were uncertain of our position. The men were very cold. Sixty pounds of stores, when you are wading thigh-deep in snow on a mountain-side, is a heavy load, and they were weary. But time and rations were limited. We did not know how long it would take to reach the head of the Tongshyong, and could not afford to wait snow-bound for days.

Morning showed a new world. On both sides above us towered the mountains, wrought in a mantle of freshly fallen snow. It was 4 a.m. May 7, and the sun was just touching the topmost peaks. I left the men to make tea at once, and went down the valley to where I thought I could see the Tongshyong glacier stream pouring into our moraine. It was there ahead. There was no mistaking it. But again the amazing deceptiveness of these distances struck me.

At 6 o'clock I was back to find no tea, as the Primus had jibbed. This was exasperating, as the danger of avalanches was great with the new snow and a glowing sun rising over the mountains. At 7.15 we eventually got away. The porters were cold and slow in moving after a wretched night. This was nearly our undoing.

It was an hour's march to the foot of the Tongshyong glacier stream. Here is a peak of marked shape (numbered 19,050 feet, no name), which points like an index finger to the sky. Below we left a three days' dump of rations, and then on this brilliant sunlit morning started for the pass. Of the entrance to that glacier stream I had misgivings from the start, when sighting it alone in the first light of dawn. But it looked as if we might hope for better things inside. The entrance was overhanging cliffs, and above on the north-east side towered the range that runs down from Mount Simvu to Peak 19,050 feet. We should have gone up at 4 o'clock had we known our position and not been delayed.

The overhanging cliffs near the entrance were dropping stones as we went up, few but dangerous. Higher, things got worse. Loose cliffs on both sides looked as if they might fall in at any moment, and barrages of stones were rolling into the chu. For morale's sake I kept the party together, though it were better to be killed singly than all together.

As we joined the glacier avalanches were pouring down from the heights on the left bank, and over the moraine which runs like a steep cliff along the side.

Two of the men had been in the first Mount Everest fatality when seven porters were killed by an avalanche, and were scared out of their lives. And then a thick mist rolled up the valley and obscured everything. All around was the rushing sound of snow and stones. I set the men down under the largest boulder we stumbled on, and went slowly up through the mist.

The right bank of the Tongshyong glacier as I moved towards it gradually loomed up a steep wall of rock. Above this wall of rock there appeared to be no towering hillside cascading snow and stones, as was happening across the moraine. Once under the shoulder of this wall, with the tents up and making tea, the party could smile once more. We had had four rather nerve-shaking hours, though we must have come up that chu in record time. It was now I p.m. I had a sketch of the Zemu Gap with me, given me by "A" in Calcutta, and made by a previous expedition. The sketch shows the ice pinnacles of the Zemu glacier hanging down over a dark rock cliff, the head of the Tongshyong valley; and on the east of the Zemu pinnacle there rises the towering shape of Simvu. There is a couloir running up to an ice slope below Simvu and thence on to the Zemu glacier. Here "A" had made a mark as a possible crossing of the pass. The mist cleared later, and it was all there. But down this couloir, where we might ascend to the pass, an avalanche of snow was pouring into the Tongshyong valley.

I left the porters and went to look at the west side of the pass hidden behind our rock shoulder. The last rays were falling on Simvu peak. A couloir on the west side looked steep, but safer from avalanches.

It was 3 a.m. on May 8 when Angpenba, Doctor Somervell's bearer on the Mount Everest Expedition (a Nepalese lad, bold and quite tireless), came with me up the couloir that runs up to the west of the Zemu gap. We had slept the night under the rock shoulder, and left the other porters sleeping. The couloir was steep, and we were hurrying and rather breathless, fearing the coming of the sun. Above we could see a snow ridge running up to the pass above the Zemu glacier. It was 4 o'clock as we reached the ridge, and the rocky peaks above the Zemu on our side of the pass were glowing in the first rays. On the far horizon over the centre of the Zemu Gap and behind Green lake, where Kellas went, some peak was alight (numbered but unnamed). We turned towards the south; Pandim was fully lighted now, a mass of white and blue, hanging in ice-ribs, with its splendid dome over all. And so we moved, breathless to the crest of the pass (19,300 feet), and there opened before our eyes the fluted blue ice pinnacles of Siniolchum in long serried ridges against the perfect blue of the morning sky.

She is written of as the Jungfrau of the Himalaya, the Queen of mountain beauty. She towered in morning splendour over the level mass of the Zemu glacier ice. We descended to the glacier across the pass, and then reluctantly returned, for the morning sun was already softening snow. Where we had trodden in the ascent to the pass on a surface as hard as ice, we were now going through knee-deep in the snow. As we reached the tents clouds were rolling up the valley from the south-east, and presently at 9 a.m. the hills were echoing with the sound of falling stones. Snow fell that day and late into the night. On the morrow we were faced with the descent through the Tongshyong Vallev; there must be no delay, and orders were given to start at 3 a.m.

Our wildest fears during the ascent had hardly pictured the scene of

destruction and *débris* which we were to cross. Our tracks of two days previously were covered in many cases by the hillsides having crashed into the valley and filled up the racing chu. There was not 50 yards of our going uncrossed by some enormous slip. We looked fearfully through the half-light at the hanging walls above us, bound at the moment by the night frost.

In a short time the first warm rays would loosen them, and perhaps even then some trickle of water from a mountain stream might send us to destruction beneath these walls. We raced down the chu. In forty minutes we had reached the foot of that valley, and arrived breathless and thankful in the Talung glacier. And no stones fell during our passage.

The Talung even in these two days presented a very different scene, so quickly does the May sun change the face of the Himalayas. Where we had walked through snow thigh-deep, the boulders of the glacial moraine were in many places now uncovered. We headed back towards the Goycha La.

I should mention that above the Talung glacier bed on the north side of the Goycha La, we found firewood growing. Had we known of this before, we could have made our last camp there instead of at Chematang, and left the Sirdar Nur Sung there. After leaving Chematang we had relied entirely on two Primus stoves and some cookers.

The entrance to the Tongshyong glacier may be less dangerous at other times of the year, but should always be made in the very early hours, as it is a three hours' climb before one is free of the danger of avalanches and falling rocks. Another party, knowing that the Zemu Gap can be traversed on the west side of the ice-fall, could cross over on to the Zemu glacier, returning by Lachen. In clear weather a day's march could take one from Chematang to the junction of the Talung and Tongshyong glaciers, and another day's march over the Zemu Gap.

This was my first experience of snow and ice in the Himalayas, and made me fully realize the importance of moving early. The snow was soft by 9 o'clock a.m. nearly every day and the mountains obscured in mist by 10 a.m., so that the day's journey had to be made between 3.30 a.m. and 9.30 a.m.

Returning from Semvu I made a reconnaissance of Pandim from the north side in the hope of being able to attempt to climb it from the Talung. I ascended a very steep couloir with Angpenba to about 20,000 feet, but returned, as we were faced by the precipitous ice-fall below Pandim's north-eastern glaciers.

We then pushed on to the Goycha La and prospected the mountain from there, attempting to form a high camp on the ridge that runs northwest down to the Goycha La and work up the same ridge, which from every side appears to offer the greatest hope of an ascent. It was then the monsoon broke; clouds and heavy snowstorms made further move-

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ment impossible. The bad weather held on, and we were forced to abandon further attempts. This was May 12. From May 4 till the 12th we had three fine clear mornings till 9.30 a.m., and during the rest of the time the snow fell incessantly and thick mists obscured the mountains. The snow conditions made the going terribly tedious, and without at least three consecutive days' fine weather Pandim would have been impossible, whatever the actual difficulties of climbing. Making forced double marches back to Darjeeling by the short route through Chakung, we arrived on May 18. The monsoon had set in without mistake, as the mountains were obscured and rain fell every day.

As regards expenses, the whole cost of food, porterage, pay, and equipment for the five Everest porters, Sirdar and cook, for thirty-two days away from Darjeeling, with the extra coolies required from Darjeeling to the snow-line, amounted to Rs.1200, or about \pounds 90.

Mr. Shebbeare, who gave me such great assistance before leaving Darjeeling, has established a sort of depôt in his house of Whymper tents, cooking-pots, alpine rope, and alpine cookers for mountain expeditions towards Kangchenjunga. This depôt and his advice proved invaluable. It is advisable to take sufficient ice-axes for all the porters to Darjeeling.

THE TWO-HUNDREDTH ANNIVERSARY OF THE BIRTH OF GENERAL ROY

Colonel Sir Charles Close, K.B.E., F.R.S.

7 ILLIAM ROY may be looked upon as the real founder of the Ordnance Survey, though he did not live to see its official establishment. It was due to his persistence and energy that the idea of a National Survey Department took shape, and he was much concerned with two undertakings which carried in them the germ of the future development of the Survey. In 1747 he served as a subordinate in the Ouartermaster-General's Department under Lieut.-General Watson, the Deputy O.M.G. In Roy's words, "This officer, being himself an Engineer, active and indefatigable, a zealous promoter of every useful undertaking, and the warm and steady friend of the industrious, first conceived the idea of making a map of the Highlands. As Assistant Quartermaster, it fell to my lot to begin, and afterwards to have a considerable share in, the execution of that map." The map was "a magnificent military sketch," on the scale of 1000 yards to the inch, and it was eventually extended to cover the whole of the mainland of Work on this map was stopped on the outbreak of war Scotland. in 1755.

Then comes a long interval, during which Roy was unable to do much towards the furtherance of his favourite project of a National Survey.