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'To encourage and assist Himalayan travel and exploration, and to extend knowledge of the Himalaya and adjoining mountain ranges through science, art, literature, and sport.'

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LIST OF PLATES

NUPTSE

PART I

By J. Walmsley

WE were seventeen days' march from Kathmandu. The following day, Chris Bonington and I left the expedition encamped at Thyangboche. As well as resting after the long march in—a series of ascents and descents, without end it seemed, across the mountain ridges—the expedition would check equipment, cut marker flag-sticks, mark mountain loads, and acclimatize by climbing local peaks. Chris and I with two Sherpas, Nima and Tashi, had five clear days ahead of the expedition in which to reconnoitre the South face of Nuptse. We had to be reasonably certain about a route on the South ridge, a line of weakness only seen on photographs and by our Patron, Sir John Hunt. Nobody else had ever tried to climb on this ridge before or even climb on the mountain. There was a chance, too, of an alternative route. From Thyangboche we had seen a ridge directly beneath the summit of Nuptse which would obviate the two-mile-long traverse at *c.* 25,000 feet from the South ridge. But was this Central ridge possible ?

We tramped towards Bibre at a brisk pace. It was a long day's march away and once there at the foot of the Nuptse Glacier we could start our reconnaissance of the South face. We should also be able to save a day on the expedition's time to Bibre and thus have six days' reconnaissance time.

For two days we climbed around the South ridge from the Lhotse and Lhotse-Nup Glaciers. The ridge was certainly very formidable in its upper reaches. There was a steep rock buttress joining the ridge to the Summit ridge and it was almost bare of snow. This latter feature was a bitter disappointment since a covering of snow of reasonable depth would have covered the difficulties. However, snow-covered or otherwise, there were but two ways to negotiate the buttress as seen from below and both of these were very exposed in position and steep, without any break or rest for camp in their upward sweep. Though the expedition was strong in rock-climbing talent, it would be a very difficult task to get over the buttress and the rock wall above it at *c.* 25,000 feet. And then there would be the long high-altitude traverse after this major difficulty. But the lower sections of the South ridge were much easier. There was a delightful subsidiary ridge, short in length and

occasionally climbed through fangs of ice set like spears to catch animals. There was no hint of a track nor was it worth while making one for the later crossings, but cairns were built to show the best of a rough passage. Everything was tottering, broken and unsteady, and so it was a great relief to reach the far side of the glacier and step on to hard snow. We then rested awhile and admired the shapely spire of Ama Dablam. I thought of Mike Harris and George Fraser near the summit in 1959, and then my thoughts wandered away.

From the glacier it was a series of easy snow slopes which in the latter parts rose steeply into the flanks of the ridge. We climbed slowly beneath the hot sun and soon reached the spot where Camp I was established later. From this site the shortest and easiest way on to the ridge appeared to be via a short chimney, but this proved to be much steeper than we had anticipated and was also very dangerous. Almost every other movement in the chimney disturbed loose rock—this was certainly no route for anybody, with or without a load. So we moved over into a couloir whose most obvious feature was a trail of debris from broken rock. The couloir had been seen from Base and earmarked as an alternative to the chimney, but the 'avalanche' trail of rock had made me want to try the chimney first.

At the beginning and for some considerable way up the couloir the route lay on loose broken stones on a slope of dirty ice. Almost every other foothold was unstable. We seemed gifted or fated to choose the most tortuous and arduous ways at first, later an easier passage was used to the right of the couloir. About half-way up the flank of the ridge, having left the couloir behind, we moved into a shallow chimney of steep ice and rock slabs. At first we climbed on to a fluted ice rib at the side of the chimney but progress was slow. So we then decided to follow the line of the chimney. It was similar ground to the ice, rock and snow we had climbed below, just above the couloir, and we had moved with little pause or hesitation. There were loose slabs on the chimney route which required care but our progress was fairly rapid, and soon we were not far away from the crest of the ridge. By now we were beginning to feel the effects of having climbed all day long in the hot sun with little pause for rest. It was also late afternoon and we had no idea how long it would take us to return to Base. About 150 feet from the top of the ridge we saw no obstacle ahead, the way was now clear to the ridge. So we returned towards Base; there was no advantage going any further now.

The following day, April 13th, Dennis Davis and Nawang Dorje

established the route on to the ridge. They avoided the shallow chimney on the flank of the ridge and climbed over the fluted ice rib to a steep snow-field which they ascended to the crest of the ridge. This certainly gave a better and easier route to the position of Camp II on the ridge. Chris Bonington, Jim Swallow, Simon Clark and three Sherpas moved up in support and occupied Camp I. We were certainly doing very well at this time. In the space of two days we had climbed well over 2,000 feet from Base and made a route as far as Camp II. Also at this time we received a great moral boost with mail from home which had been brought into Camp by Ed. Hillary's mail runner from Mingbo. This was certainly a very welcome and generous service from the Hillary camp.

Chris took over from Nawang Dorje the next day, thus leaving J. S. and Simon with four Sherpas for carrying loads to Camp II. J. S. and Simon also moved Camp II to a better camp-site further along the ridge, just past a rock gendarme which had the shape of a bishop's mitre. It was a much bigger site with room for a number of tents and a stack of food and gear.

Chris and Dennis moved to Camp II with personal gear and later explored ahead and extended the route along the ridge. From Camp I the ridge rambled along in a broken fashion with no great rise in elevation until the way was barred by a rock wall with steep ice slopes above it. Chris and Dennis traversed below the wall to the first natural break which was a Vee-chimney with smooth side walls and an ice-filled crack about 3 inches wide at the back of it. At this point the snow traverse had tapered into a smooth ice slope beneath the chimney, sweeping down for over a thousand feet to the snow-field below Camp I. Looking up, there was a small overhang at the top of the chimney, and a trace of ice slopes above it against the blue sky. Chris jammed his way up the chimney by using the friction of his body and legs against the smooth walls of rock. At the overhang there was a crack on the right wall which gave a good jammed foothold and a welcome rest. Chris knocked in a piton in the side of the overhang for security and then climbed round and over it. It was a very fine effort on a severe rock pitch at c. 19,000 feet. After regaining breath he brought Dennis up to the stance, and then they continued up the ice slope above.

The two climbers made steady progress cutting steps, knocking in ice-pitons and placing a fixed rope on the 50° ice slope. The climbing position on the 'nose' of ice could not have been more exposed. When the ice slope became less accommodating they aimed for a chute gouged into the ice by the side of a rock pillar. Their line of approach was along a traverse that gave everything

a climber wanted ; exposure and steepness with good footholds and handholds, and the intoxicating sense of having to climb with good balance and careful movement. It was a very fine traverse which led without undue difficulty into the chute, which was ascended for about 200 feet to the top of the pillar. On the last 40 feet handholds as well as footholds had to be used to climb the very steep ice-wall. On the platform where the tents were erected for Camp III there was little or no space to spare—6 to 12 inches on the sides and about 2 feet at the ends. Behind the tents was an overhanging ice-wall ; all about was space ; and in the distance wonderful views of the mountain ranges. Camp II was within sight and hailing distance ; and down below there was now a line of red fixed rope marking the route from the Vee-chimney.

On April 16th, Simon on returning to Base Camp produced a list of requirements for Camps II and III with first and foremost the need for a rope ladder in the Vee-chimney. At the moment they were using a knotted fixed rope. The ascent of the chimney with a load on one's back was about the most tiring thing possible and a rope ladder should make it easier. Could I make this top priority?

Meanwhile Chris and Dennis were making the route from Camp III. They were finding it to be the most difficult part of the route so far. Almost as soon as they moved from camp they had to climb steeply on the east side of the ridge and were then forced to climb to its crest to avoid vertical rock walls and broken snow. From the crest they had to use the east side again and descend to a niche by the side of a small rock gendarme. It was best to traverse around the side of the gendarme, and a small boss of ice virtually stuck on the rock wall required extreme care for fear of it breaking away. There was a visible sigh of relief when they had both crossed the boss and were back on the relatively safe ice ridge. They moved round a pillar of ice into a further niche which brought them out on the west side of the ridge. A tunnel appeared which they easily crawled through and out on to the east side again. An awkward mantelshelf movement followed by a rising traverse led them into yet another niche. The twists and turns of the ridge were most confusing, so much so that Chris and Dennis thought there was little point in going on like this. The ridge was quite a long one and they were filled with dismay at the thought of these complicated moves all the way. But they climbed on, most of the time on the west side, and they now found, as a form of reprieve it seemed, that the way was more open and straightforward than before.

The route continued with a series of 'knight' moves along the ridge, with nearly every position protected by fixed rope. Two

places were especially difficult where the climbers were pushed outwards as the ice-wall leaned over from the crest. Handholds as well as footholds had to be cut as big as possible before reaching and climbing over the top. As Dennis and Chris climbed higher they reached an amphitheatre where they paused and deliberated which way to go next. This amphitheatre was truly beautiful in form. It had the shape of the cutting edge of a scimitar gouged into the ridge and plunged like a chute into the depths below. The way resolved itself into a traverse on the steep curved wall which once started proved to be much easier than had appeared at first. There was a fracture below the crest which gave reasonably easy footwork. Shortly after this section there was a gendarme with a steep wall facing the ridge. From the amphitheatre it appeared to be a difficult problem, but closer inspection revealed a broken corner and a cracked ledge which led fairly easily to the top. The route now eased away from the steepness below but, alas, there was no room anywhere for a camp-site. Every possible place seen from a distance proved on closer examination to be too small. But at their farthest point along the ridge they spotted a small hollow which would just take a small tent. This would have to do as a temporary camp-site unless something better could be found or made. Dennis and Chris returned to Camp III and intended on the following day to descend to base for a rest period.

On the day, April 19th, that Chris and Dennis returned to Camp III, Trevor and I accompanied John to Camp I, where he stayed overnight before climbing up to Camp III to join Les.

At Camp IVa John and Les had established themselves with a small tent in the hollow. There was insufficient room, and the sides of the tent fitted badly in the restricted space and hung so loosely that the strong wind across the ridge worried the tent like a dog with a bone. They climbed further along the ridge, placing more fixed rope until, after getting over two awkward rock platforms, they reached a notch in the ridge which certainly offered more camp space than at Camp IVa site. The rest of their day was spent moving the tent, provisions and gear from the hollow to the notch, now Camp IVb site. Chris, Nima, Nawang Dorje and Angtsering Cook, who had just lifted loads from Camp III, gave them a hand with this task.

When John and Les continued from Camp IVb they climbed near the crest of the ridge and more often than not on thin blades of ice. As they used their ice-axes the shafts frequently went through the ridge from one side to the other. It was obviously a dangerous route. They tried several times to climb lower down, but smooth

rock slabs below their position prevented escape or break through from the edge of the ridge. So they had to return to camp without any material success except the useful knowledge that any other way must take a lower line. They settled in camp again amongst all their damp gear. This did not give John's suspected fibrositis much of a chance to improve. He had had a lot of trouble and pain with it in the relatively salubrious quarters of Base Camp. Les, too, was feeling the discomforts of their camp. His length of 6 ft. 3 in. did not fit into the small tent, even though the small stature of John gave him the best possible room. His frame poked into the sides of the tent and into John as well. They were not feeling well enough, and were dispirited and disjointed, so they returned down towards Base, giving Simon and Chris a chance to move forward into their places. (Simon was then taking cine film of climbing action along the ridge.)

When Chris and Simon moved from Camp IVb they knew about the danger and difficulty of climbing high on the ridge and went straight from the camp on a long horizontal traverse. This way was well below the line taken by John and Les, and proved to be more accommodating. The rocks jutting out from below gave more stable snow conditions and much safer climbing. They came to an interesting section of steep ice-walls which they had to traverse across for several hundred feet. The angle was just right for easy careful movement, and when the thin rope handrail was fixed the stretch was quickly traversed. At long last the main mass of the mountain was coming within easy reach and measurable distance. A steep, direct rise of approximately 200 feet followed by a long traverse below the crest led Simon and Chris to the end of the ridge. Where the ridge joined into the face there was plenty of room for tents. Now we could have a permanent Camp IV above which could be seen steep ice slopes having no apparent technical difficulties except for the dark rock band. On April 28th, Simon and Chris established Camp IV with tents, gear and provisions.

PART II

SUMMIT

By D. Davis

After spending seven days on the mountain, making the route with Chris Bonington nearly up to Camp IV, I arrived down at Base Camp just as it was dusk, and looking back up the mountain I thought of the others I had left up at Camp III and hoped that

in the next couple of days they would be able to establish a camp on the snow saddle where our ridge merged into the face.

A day down at Base is always pleasant and when the mail arrives as well you feel life is not so bad after all. The next day I started the long journey back up the mountain, spending a day load-carrying at each camp before moving up myself. At last I was back at III and had done a lift up to IVb. It was now time to move up to IV, but the weather was bad up there and the ridge was even more difficult, now being plastered with new snow.

My companion was ill and turned back, so I continued up the ridge alone, passing the temporary camp-site at IVb which was still in use. So they hadn't moved up the final site for IV yet.

This was my first time along this section of the ridge. To avoid the tottering ice pinnacles on the crest of the ridge the route traversed across some very steep rocks, which with the present spell of bad weather were now heavily plastered with new snow. I was very glad that Clark and Bonington, who were now at the front, had fixed ropes along this treacherous section. Once off the rocks a steep ice path led to a horizontal traverse across to a small plateau, where I met Bonington and Clark descending from a reconnaissance of the slope above. After helping me to pitch my tent they descended to the lower camp, leaving me to spend a lonely night high up the mountain. The clouds slowly rolled away leaving me bathed in evening sunshine. I was reluctant to retire to the warmth of my sleeping-bag, but at last I crept inside, out of the cold, and began preparation for the evening meal. I looked out of the tent door to admire the view over to the peaks in the west. The weather certainly looked more settled now and my spirit rose. We had overcome the main difficulties on the lower half of the mountain, there now remained the last problem, the rock band high above. I felt sure we would surmount this difficulty, but it might mean a lot of hard work in making the route and establishing the higher camps.

My meal was fairly simple, a tin of meat with some powdered potatoes, finishing with some biscuits and jam. I was tired after my long climb from Camp III and soon fell asleep.

The next day I descended to the temporary camp below and helped to bring up the tents and equipment. So that night we were all united again and ready for pushing on up the mountain. Looking out to the south we could see Ama Dablam still high above us, and further round to the west lay the distant peaks of the Rolwaling which had been the scene of my first Himalayan Expedition in 1955.

It was there under the shadow of the 23,500 feet peaks of Gauri-Shankar and Menlungtse which now dominated the distant skyline that I dreamed of climbing a really big mountain.

The next phase of the expedition was to locate a site as high up the mountain as possible for another camp. But after several attempts at this, we decided that it was necessary to place this camp at the top of the steep ice slope just above IV to avoid continually repeating this section of the route, which was always very tiring and could take up to four hours in bad conditions but only took one hour if all the steps were clear of snow.

It took us hours to cut a platform from the camp, where Jim Swallow and I spent the next few nights on our own. It was here that I discovered my inability to sleep once daybreak had arrived, and this didn't go down too well with some of the other members. In fact, it was this insomnia which was the reason for so much solo climbing on the mountain, as it was an hour or two later that I would see a lone figure on the ridge behind me, our ropes just not being long enough to cope with such a time lag.

At last we had found a site for Camp VI and fixed ropes down the steeper section of the route, but I was beginning to get worried by the apparent lack of activity lower down, for by this time our own food supplies were running low. I went down to see what was happening. That day several loads came up, but best of all Pemba and Tashi had come up to stay ; which meant that we would no longer have to cook for ourselves.

With these reinforcements Tashi and I moved up next day to establish Camp VI with Jim and Pemba lifting some more food and tents up for us. This camp was placed on the bottom corner of the lower snow-field and it was here that Tashi and I spent several days in fine weather trying to force our way through the difficult and dangerous rock band which could prove to be the key to climbing the mountain. Each morning we would be away from our tents at 7.30 just as the sun struck the face. It always seemed to be windy up here. We had had long fine days and the route was progressing well, but we were puzzled that no one had moved out of Camp IV or V in support. We had only limited supplies of food left and I felt a deep sense of frustration that this was going to be yet another failure. I had so wanted to get a big mountain but had previously been prevented from doing so by bad weather. Was it going to be the same this time ? Did the people down below realize that it was perfect weather up here ?

Perhaps the clouds I had seen down below were bringing snow and they thought it was the same right up the mountain.

Were we to push on whilst we could or were we to wait for further supplies to arrive ? This was the problem we had to face and we were worried by it, but after a lot of thought we decided to move up to Camp VII and, if necessary, push ahead for as long as we could. That evening as we descended we saw another tent being put up at Camp VI. So they had come up after all. I could see that this would have its complications as no doubt they would want to go through to VII next day. Still we couldn't complain ; we had had our share of the lead.

Tashi and I therefore set off early next morning to remake the route and to carry all the necessary equipment for Les Brown and Chris Bonington to stay up at VIII.

To avoid the very steep rocks of the rock band we had gone up the ice to the right and had found a shelf plastered with soft new snow which seemed liable to slide off at any moment taking us with it. This shelf led to a steep snow-filled chimney down which we fixed 150 feet of nylon rope as a handrail. The chimney was strenuous even with the fixed rope and always left me gasping for breath at the top.

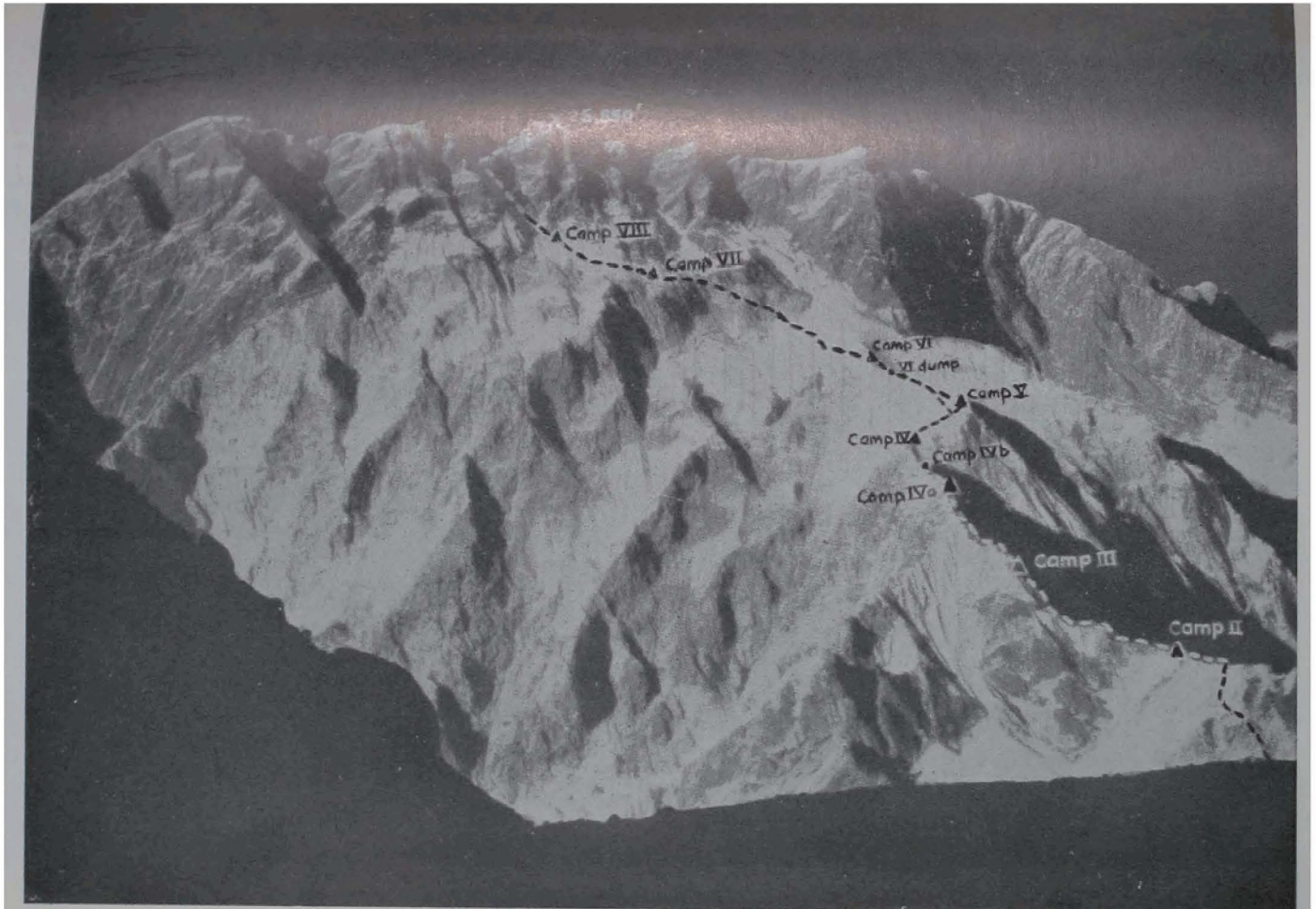
We dumped our loads at the camp-site and left Brown and Bonington to pitch the tent on the very restricted platform, on the edge of the upper snow-field at approximately 22,500 feet. It would be their job next day to make a route across the snow-field to the foot of the couloir which led up to a saddle just to the left of the summit. Tashi and I joined them at VII after another night at VI. It took us four hours to cut a platform for our tent, and it was quite late in the day when we saw them come over a distant pile of snow, moving very slowly indeed. They were obviously very tired and joined us for a meal when they arrived.

It seemed unbelievable that we were now within striking distance of the top. We discussed our next move. The other two had got a considerable way along towards the couloir ; it had been steep and difficult and they were tired. It seemed logical therefore that Tashi and I should complete the route to VIII. Up early, we had a quick breakfast and were soon on our way. Our job was to continue the route into the couloir and find a camp-site as high up as possible. The traverse was steep and with 35 lb. on our backs it was a long slow job. We were now at over 23,000 feet. This was no place to spend a night without a tent. We looked back anxiously and were relieved when we at last saw the others following slowly behind with the equipment. The couloir offered no suitable site and at 3.30 we broke out to the right to a small rock ledge. It would mean building up its outer sloping edge with the ice that would have to be cut

away from the back. The other two dropped their loads in the snow and set off down again. It took us two hours to pitch the tent. In a sudden gust of wind the two main guys broke and the tent was nearly carried off the ledge. At last we crawled inside, but the ice we packed underneath slid away leaving a great hole down one side of the tent under the ground sheet. We slept across the tent that night with our feet down the hole.

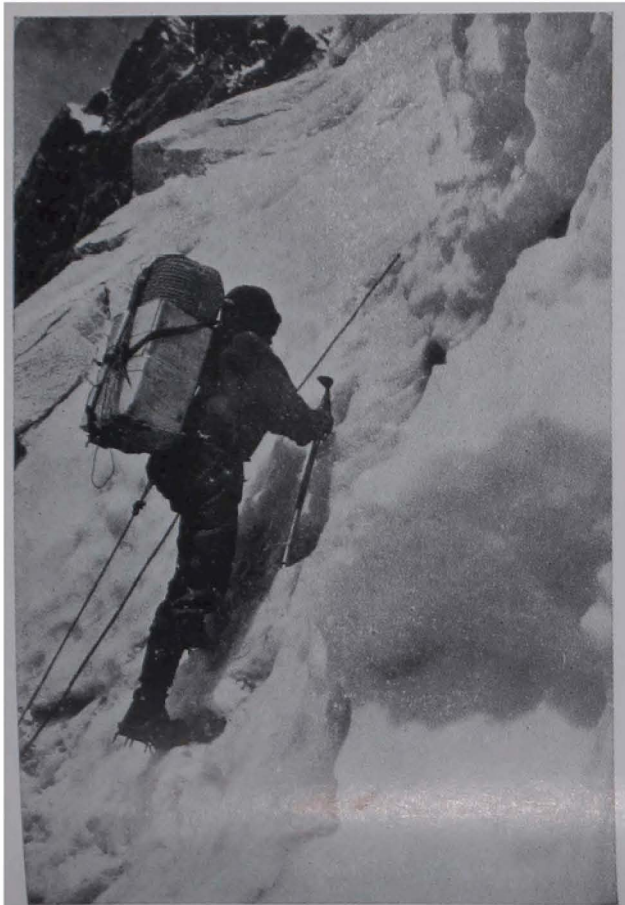
It would be our job next day to cut the steps up the couloir to the small saddle 700 feet below the summit, whence we would all join forces and go to the summit the following day. It all seemed so unreal, all my earlier anxiety seemed without justification, my earlier frustration was turning into a great determination to get to the top. There was sufficient food for our meagre needs and we had plenty of warm clothing, but it was a keyed-up pair who retired to their tent late that evening. I fell into a fitful sleep, but at 4 a.m. I was awake again. I nudged Tashi and we made preparations for the long day ahead. We were still 2,450 feet from the summit. Our breakfast was simple—tea, porridge and corned beef. The inside of the tent was coated with frost and every movement showered this down on us. We thawed out our boots and at 6.30 a.m. on May 16th we started cutting slowly up the couloir. We cut large steps all the way, for we knew it would be a long day and it would be late when we returned. Each time we looked up we thought the saddle was only a few rope-lengths away. But, disillusioned, another three hours of step-cutting would pass and it would still appear just as far. It seemed we would never reach it. Eventually after seven and a half hours of step-cutting we were there. We sat on some rocks nearby to rest. We were at over 25,000 feet and only 650 feet from the top. Should we go on whilst we had the opportunity? We had had an exhausting struggle up the couloir, but sitting in the sunshine we were beginning to recover. The summit was within our grasp, and who could tell, perhaps the weather would break next day. With a slight sense of guilt at not waiting for the others we carefully moved up the narrow ridge of snow-plastered rocks. It would have been foolish not to, after all the work that had been put into the expedition by others. Glancing behind us we saw the West ridge of Nuptse sweeping up above us with great cornices hanging from its crest, and as our eyes ran along the ridge they were led to the mighty 26,000 feet peaks beyond. There were Cho Oyu and Gyachung Kang dominating the view, beyond which lay the rolling plains of Tibet.

Still cutting steps we moved slowly upwards. Glancing behind again, the ridge which had dominated us at the col was now well

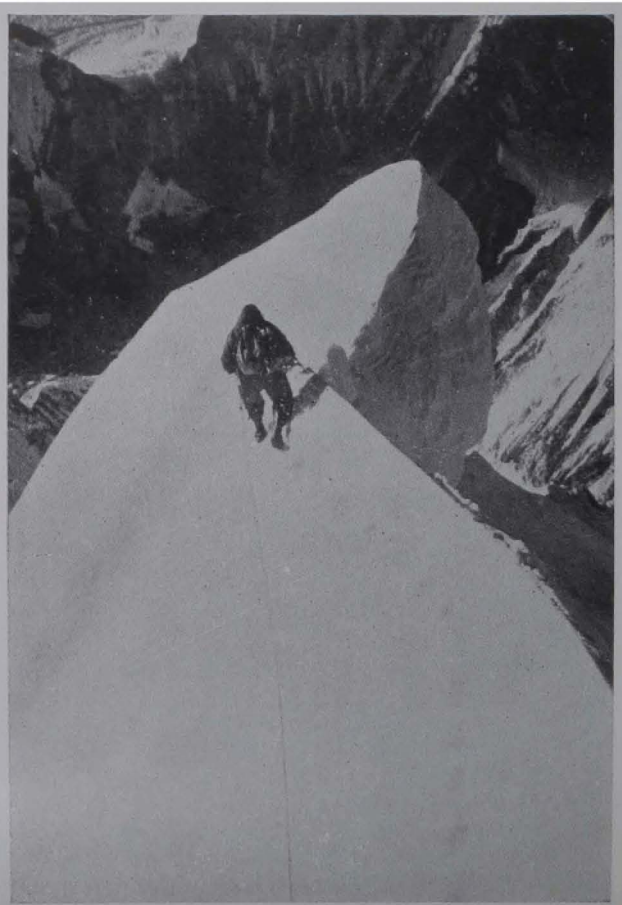


NUPTSE, CENTRAL RIDGE AND SOUTH FACE

Photo: J. Lovelock



TASHI ON THE STEEP ICE BELOW III



TASHI DESCENDING FROM THE SUMMIT

below us. We must surely be near the top now ; and then as we turned a corner there it was, just visible beyond a pile of snow which rose up in front of us. It was already 4 o'clock and it was obviously too far for us to do. It appeared to be miles away. I moved on to the snow pile and to my amazement it was no longer a distant summit ; it had been an optical illusion after all and was now only 200 feet away. I stopped just short of the summit to enable Tashi to go through so that I could photograph him as he reached our goal. So it was a delighted Tashi who went through along the knife-edged ridge and trod the snows of the summit first, followed closely by myself.

Looking down beyond the summit was a fantastic ridge twisting and turning its way in great steps towards Lhotse. It fell to a saddle and then rose in a jagged line to the summit of Lhotse, only to fall again to the South col and rise once more to the giant of them all, Everest. So the trident was completed. And what more could I wish for than to be standing on the summit of Nuptse with a Sherpa as my companion—one of those men who had made Himalayan climbing such a delightful experience and who were always so wonderful to be with.

My own personal ambition had been achieved, the expedition had been a success. This was indeed a great moment and the climax in my own climbing career. Our descent was made quickly, but we realized it had been a wise decision to put a torch in the rucksack, for this saw us the last few hundred feet back to camp.

On the 17th Brown, Bonington, Swallow and Pemba reached the summit in the morning, really clinching the mountain.

CAMBRIDGE EXPEDITION TO NAGIR, KARAKORAM

By W. P. GAMBLE

THE object of the expedition was to carry out glaciological and botanical studies on the Minapin Glacier. The Minapin Glacier is in the North-west Karakorams, and rests beneath the eastern shoulder of Rakaposhi. However, it is more directly associated with the unclimbed Minapin Peak (often known as Diran). Two expeditions have attempted, unsuccessfully, to scale this peak, a British expedition in 1958 and a German one in 1959. Both used the valley of the Minapin Glacier as their access route, and their reports on the nature of the valley helped us greatly when we were planning our expedition.

The Minapin Glacier is unusual. Both parties must have been aware of the spectacular ridge which links Rakaposhi with Minapin Peak. All along this ridge are enormous cornices and ice-cliffs, parts of which periodically break away and collapse on to the glacier below. This is the feeding ground of the Minapin Glacier and it is unusual because most glaciers have as their feeding ground a névé field, which receives a regular winter accumulation of snow. Unlike these, the Minapin Glacier is nourished throughout the year by spasmodic avalanching. Little work has been done on glaciers of this type, though theories have been advanced that they react more sensitively to any short-time climatic fluctuations.

The expedition travelled overland from England. The party consisted of eight members. The journey was made diagonally across Europe, crossing the Bosphorus at Istanbul into Asia. Here, for the first time, dust roads over long stretches were encountered. This meant that the second Land Rover had to be at least a quarter of a mile behind the first, or else the driver would have his vision obscured by a cloud of dust. A convoy of army lorries encountered in Eastern Turkey was the most difficult obstacle to pass on the journey to Rawalpindi.

We had decided initially to enter Azad Kashmir by driving over the Babusar Pass. This was the only pioneering aspect of the expedition. The Babusar Pass road had been constructed exclusively for the use of jeeps and the long-wheeled base Land Rover is both bigger and heavier. A considerable amount of argument was required to convince the authorities that the Land Rover was capable of negotiating the sharp bends and steep gradients.

Reluctantly they reverted, and we proved our confidence in the Land Rovers was not unfounded by arriving in Gilgit, the political centre of Azad Kashmir, without mishap. However, a few major road modifications had to be made by members of the expedition, notably hacking away the side of a fallen boulder with tyre levers. When the return journey was made the road had been, for much of the way, improved out of all recognition. The reason for this was that Ayub Khan was taking a holiday in Naran, the new tourist centre just south of the Babusar Pass, in the delectable Kaghan Valley. The return journey was, consequently, considerably speedier than the outward journey.

At Gilgit we had to abandon the Land Rovers and resort to hired transport, donkey and human. Three days were spent in travelling up the Hunza Valley from Gilgit to Minapin. This more leisurely speed of travel enabled us to absorb the unrivalled magnificence of the mountains, which shrined the simple charm of the villages and their settlements. The inhabitants of the miniature state of Nagir were certainly spontaneously generous, apricots were in season as we passed through and they were presented to us in wooden bowls, still dripping with the water in which they had been washed. We ate these with dubious relish, nagged by the thoughts of evils which threatened us if we were so rash as to drink unboiled water. However, our intuitions were overcome by a desire not to be offensive.

It was not until a week after we left Rawalpindi that we were preparing to ascend the Minapin Glacier. Our local headquarters was the Rest House and it was there where we organized the porters who were to ferry our food and equipment up-glacier. The porters, unconscious of time, could not be infected by our sense of urgency. To them, time is broadly divided into its widest units—the seasons ; to us every moment was of value. This caused a certain amount of irritability. Fortunately, our liaison officer could make himself understood to the more intelligent of the porters who knew a little Urdu, and he coaxed and threatened them up to our Base Camp, while we stood by feeling powerless. Our fierce gesticulations were taken merely for jests. However, the porters were scrupulously honest or our system of checking was infallible. I hardly think the latter is likely so I must praise the integrity of our porters.*

Once our Base Camp had been established at about 10,000 feet, a smaller party continued higher up-glacier, in order to work on

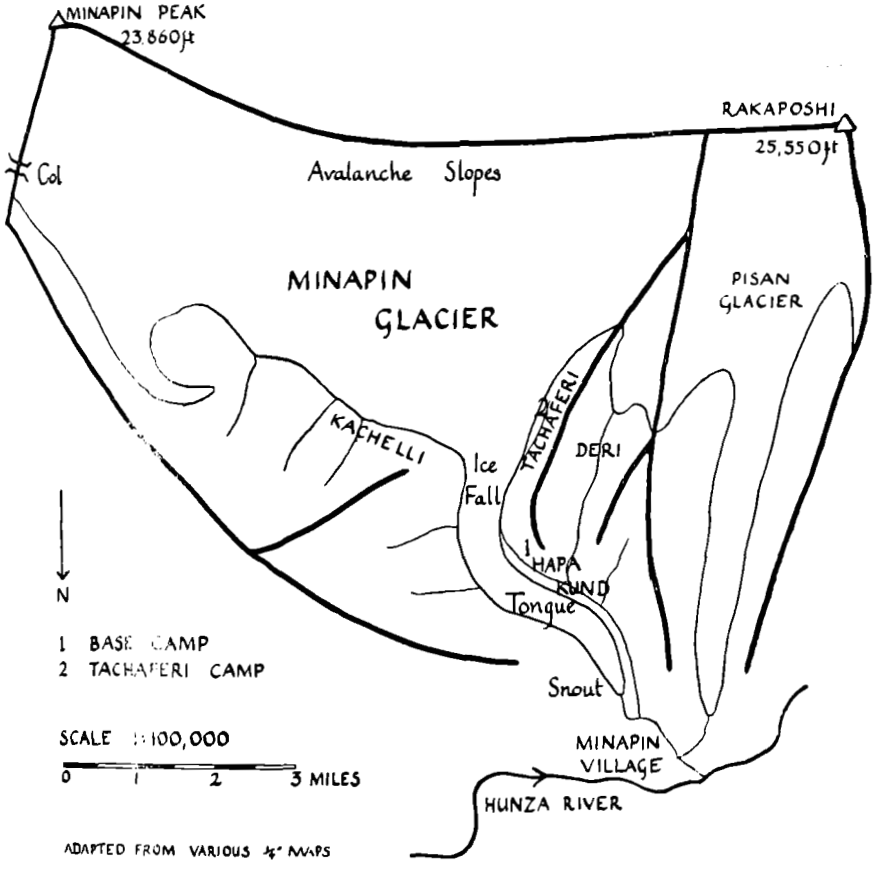
* As other travellers are aware, this is by no means the general rule with Nagir porters.

the Upper Basin and the surrounding area. The Minapin Glacier can be divided broadly into two sections. The Upper Basin in which the ice flows westward is at the south-western corner. The glacier then turns sharply northwards and is constricted into a sinuous valley, leading down towards the Hunza River. The glacier falls steeply and is deeply crevassed almost throughout the whole length of this lower section. The ice surface progressively becomes more covered in moraine as the snout is approached. Where the glacier courses round in the Upper Basin there is a fine accurate moraine, which encloses an ablation valley at about 12,500 feet. It is within this valley that the botanists did most of their work, particularly on a species of Polygonum. Collections of plants on the moraine, and also from two mountains, were made and these have been presented to the British Museum. It has been recently announced that two new species have been collected.

The glaciological work was concentrated on the western end of the Upper Basin and the snout area. The snout according to local reports had advanced about 200 yards since the previous year and this had caused anxiety because one of the channels which used to irrigate the villagers' crop had been disrupted. Over the last thirty years the glacier had been steadily retreating, but this was preceded by a very rapid and alarming advance at the beginning of the century. The economy of the villages in the Hunza River Valley is closely associated with the glaciers, for as the rainfall is only between 4″ and 7″ a year, meltwater is used extensively for irrigation. Any severance of the supply of meltwater, which can be caused by landslides destroying the ingeniously constructed channels, or by fluctuations of the glacier tongue, which necessarily leads to shifting of the meltwater streams, can have disastrous consequences. This fear is greater than glaciers actually encroaching into the terraces where the villages are generally situated, for the glaciers have now retreated well up into the mountains. Most of the snouts are above 10,000 feet. Minapin, being one of the few exceptions, advances to about 8,500 feet. This is indicative not only of a very large supply area, the Upper Basin and the great ridge between Rakaposhi and Minapin, but also its very shattered position on the north side of a towering range and a deeply unused valley. A plane table map has been prepared by our surveyor of the snout region and this will be particularly useful when compared with maps produced by Haydon in 1906, Mason in 1913 and the German Karakoram Expedition of 1959. Except for the German map those were all devoted exclusively to the snout. The German expedition surveyed the

whole glacier photogrammetrically, but their results have yet to be published in detail.

SKETCH MAP OF THE GLACIER



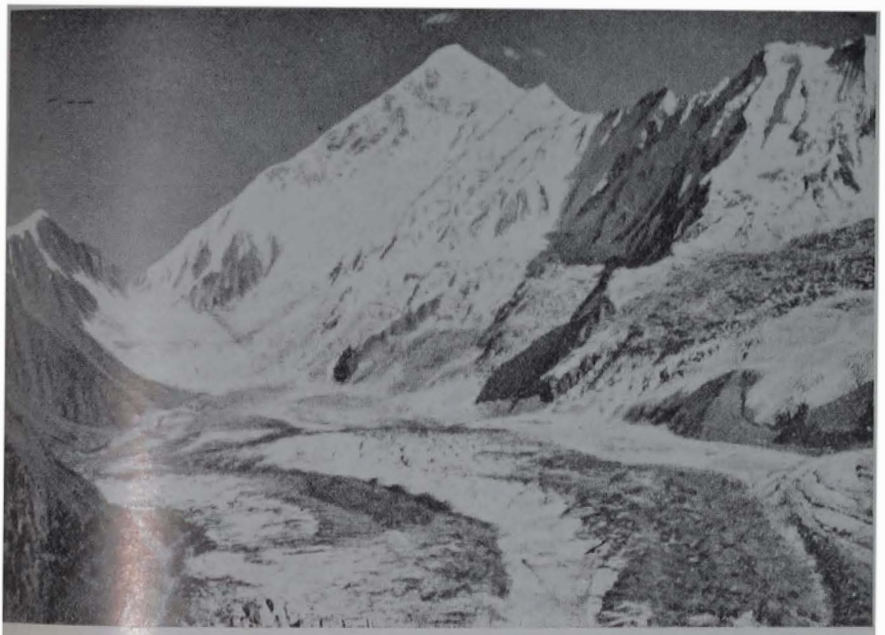
About a month was spent in the vicinity of the glacier. This was interrupted by a visit to the Mir of Nagir at his palace in Chalt where he was celebrating Independence Day. This time we travelled the twenty-three miles up and down the valley on horseback, a very exhilarating experience, for these horses insisted on tracing the most perilous paths as close to the edge as possible. Why the horses did this we could not imagine; all sense cried out against it, and presumably instinct as well, yet the horses were undaunted.

The Independence Day celebrations consisted of a feast and moonlit dancing. We, as guests, were invited into performing the

third dance of the evening. As the Mir announced, this was according to the custom of his country. There were eight of us, so we naturally chose the Eightsome Reel. This, if the amount of noise it provoked can be the judge, was a resounding success.

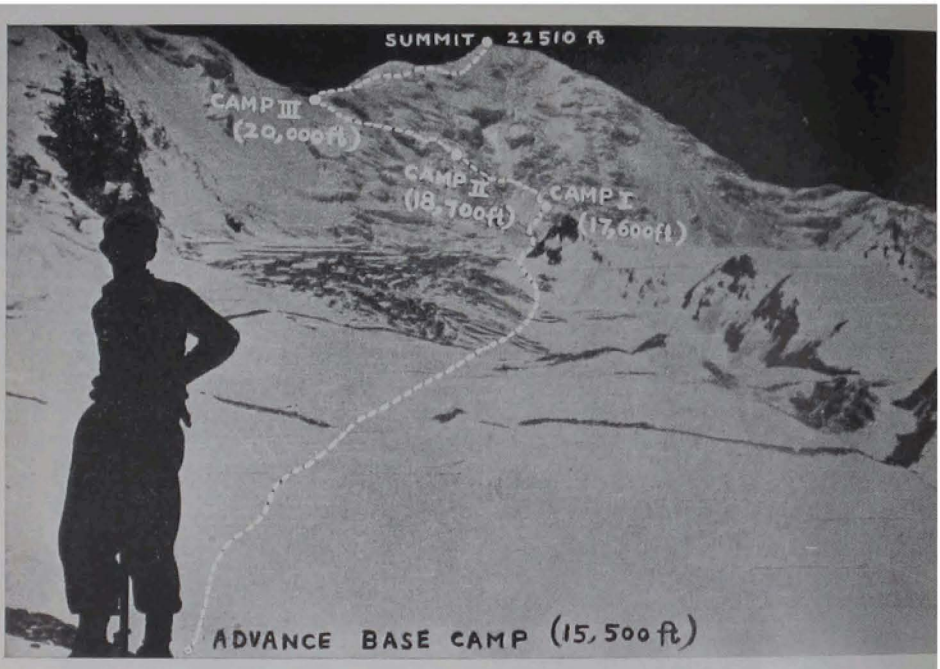
We continued our studies until the end of August. No tragedy marred our stay. Nevertheless we were witness to many incredible sights. Avalanches were particularly common. They would sweep down from the ridge and inflate into great cumiliform clouds of snow dust at the bottom. This would slowly dissipate and the myriads of suspended crystals reflected the sunlight, splitting it into a multitude of colours. After heavy rain one day we were forced to move an upper camp because of boulders bounding down from the ridge above.

It was with terrible reluctance that we left this haven of untrammelled splendour, to set out on our tedious return journey. Still it had its consolations, we now knew for when to save our enthusiasm. The uninspiring stretches were passed quickly by, and we lingered in centres of graceful beauty such as Lahore, Isfahan and Istanbul, surrounding their oriental charm, inwardly grateful that our expedition was not concerned with nature's grandeur alone.

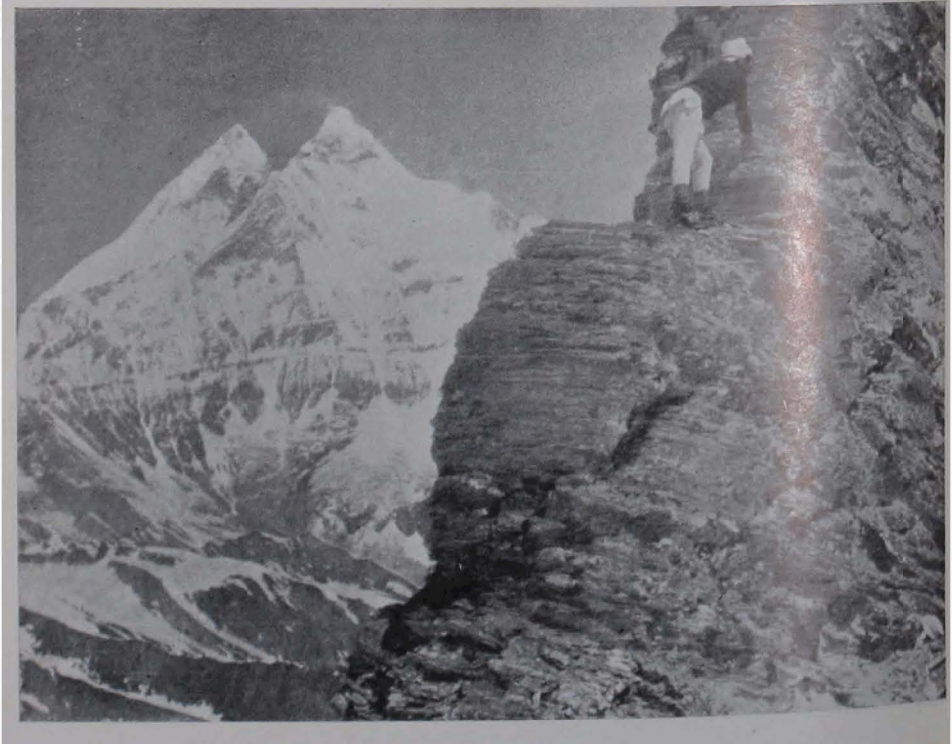


THE UPPER BASIN OF THE GLACIER WITH MINAPIN PEAK, LOOKING EASTWARD

THE SNOUT OF THE GLACIER, LOOKING SOUTHWARD UP THE TONGUE



NAVAL EXPEDITION TO NANDA KOT



TWIN PEAKS OF NANDA DEVI FROM ADVANCE BASE CAMP

NAVAL EXPEDITION TO NANDA KOT

By INST. LIEUT. M. S. KOHLI, I.N.

THE call of the hills is irresistible. Even in the midst of the craze for space travel and reaching the moon, the mountains have retained their power to goad men on and to inspire them to reach their summits. That the call of the sublime heights is not confined to 'land-lubbers' only but is also heard by 'sea-dogs' is proved by our successful expedition to Nanda Kot.

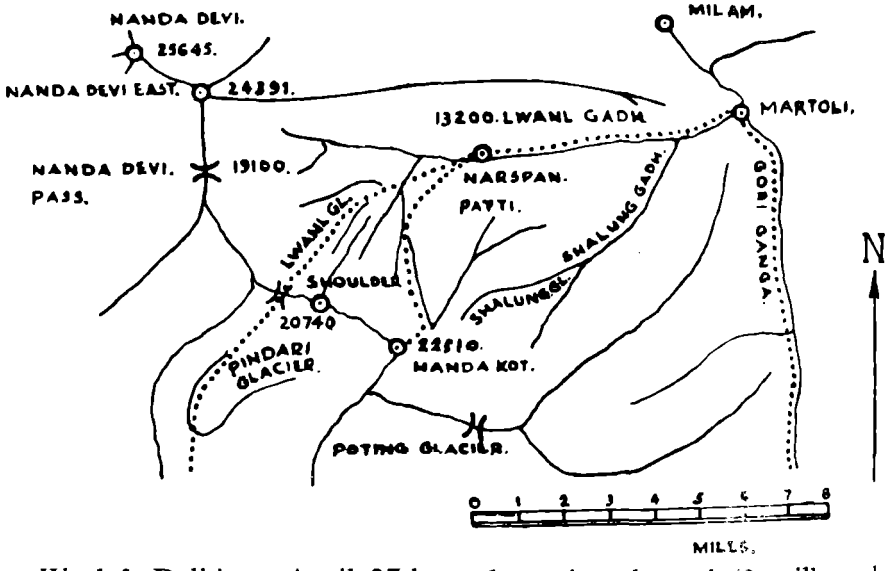
Mount Nanda Kot (22,510 feet), one of the better known peaks of the Kumaon Himalayas, is a satellite of Nanda Devi (25,649 feet) which rises about ten miles away from it to the north-west. Of the four prior expeditions only the Japanese team led by Y. Hotta in 1936 reached the summit. The first known climbers to attempt this peak, which is also called Kulhari from its shape, were members of a British Expedition led by Dr. Longstaff in 1905. Dr. Somervell, who examined its northern aspect in 1926 from the top of Ourlganga, wrote: 'It seemed to us that the whole mountain was in danger of slipping down in snowy crashes.'

Our team consisted of three officers, Surg. Lt. Y. C. Sharma, S.C.I.O. A. S. Pabreja and myself, and two sailors, K. P. Sharma, Yeoman of Signals, and B. B. Ambastha, S.B.A. Except for the doctor, all of us had done the basic mountaineering course at the Himalayan Mountaineering Institute. I had also done an advanced mountaineering course and was a member of the 1956 Saser Kangri (25,170 feet) Expedition to the Eastern Karakorams in Ladakh led by the late Major Jayal. We selected Sherpa Sardar Ang Tsering and Sherpa Da Temba as our high altitude porters.

Our biggest problem was the collection of mountaineering equipment which we had to borrow or acquire from every possible source. The major portion came from Army Ordnance factories. Other sources included the Bengal Engineering Centre, the Himalayan Mountaineering Institute, the Air Force Trekking Society, and the Himalayan Club. Lt. P. P. Mehta who climbed Trishul in 1958 helped us in procuring equipment and some private firms contributed tinned food, biscuits, cigarettes and a radio set.

After two months of hard work during which we received much help and encouragement from Capt. C. E. McGready and Commander J. S. M. Atkinson, our party assembled in Delhi on April

21st, 1959, when we were introduced to Admiral Katari and the Defence Minister. We were presented with a large number of woollen garments knitted by the Naval Officers' Wives Association at Delhi. We had received a supply of woollen jerseys earlier from the Naval Officers' Association, Bombay, and so in this respect at any rate we were well equipped. The next six days were spent in feverishly sorting out stores and packing them into suitable loads.



We left Delhi on April 27th, and passing through Bareilly and Tanakpur arrived at Askote three days later. The journey from Tanakpur to Askote was made by bus over a winding narrow dusty road. Sharma and the Sherpas had left two days ahead of the main party, and at Askote had arranged for six mules and 21 porters including six Bhotias to carry the expedition's equipment and food supplies which weighed nearly one ton.

Next morning we set out from Askote along the Gori Ganga and halting at Baram, Seraghat, Mansyari and Bugdyar on the way, reached Martoli on May 5th. At Mansyari we recruited 15 more porters, because mules cannot negotiate the ascent after Martoli. During this period of the year, this area is practically uninhabited. The people whose main occupation was trade with Tibet move up to Martoli and Milam in the months of June and July and return to Mansyari and the lower plains in September. Milam, nine miles beyond Martoli, lies near the Indo-Tibet border and is the last village on the famous Yatra route to Kailash Parvat and Manasarovar Lake.

At Martoli we offered prayers for the success of our expedition and took some *prasad* to be buried on the summit, which is considered by the local people to be the abode of the Goddess. From Martoli we turned west along the Lwanl Gadh with 38 porters and established our Base Camp near Narspan Pati on May 7th at a height of 13,500 feet.

Next day we selected eight of the porters to remain with us for the rest of our stay on the mountain and sent the remainder back. It had been snowing since the previous night and we spent most of the day in our tents. May 9th was a fine day and Sardar Ang Tsering, Sharma, Ambastha and I left for a short reconnaissance. There were two possible routes to the ascent. We first reconnoitred the route followed by previous expeditions and reached a height of 15,000 feet after nearly five hours but found no suitable site for an Advance Base Camp. The weather was deteriorating and the going difficult. Leaving a tent and some ropes there, we decided to return to our Base Camp. On the way back Ang Tsering and I made a short reconnaissance of the other route and reckoned that it would go better.

May 10th, too, was a fine day. Pabreja and Ambastha accompanied by the Sherpas left in two separate parties on the routes we had reconnoitred, while the rest of us spent the day making up loads for higher camps. They returned in the afternoon with the news that they had established the Advance Base Camp at a height of about 15,500 feet and that the second route through the junction of the Lwanl and Kuchela glaciers was the better. From now on we followed a somewhat regular camp routine. The doctor and Ambastha attended to patients, of whom fortunately there were not many, Pabreja made weather observations, and Sharma and I saw to the general running of the camp and dealt with any problems the porters raised. On completion of the day's tasks, we assembled in the doctor's tent, our 'recreation room', to listen to the radio and to play cards. We had brought a hula-hoop, but the doctor frowned on its use and we soon lost interest in it.

On May 11th, Sharma, Ambastha, Da Temba and I left with eight porters for Advance Base Camp, which we reached after six hours of strenuous climbing. The route was somewhat dangerous as stones came hurtling down every now and then from the rock-face on the right.

On the following day, Sharma, Ambastha, Da Temba and I. accompanied by Pan Singh, our efficient cook, left Advance Base Camp to find a route to Camp I. We ascended a wide ice-field full of crevasses, at times having to pass close below snow slopes from

which there was some danger of avalanches. After seven hours of strenuous climbing, Ambastha and Pan Singh were completely exhausted and could go no further. Sharma, Da Temba and I went on a bit, but finding no suitable site for a camp decided to leave our loads there and return. As this route was dangerous Da Temba and I tried to find a safer way back, but without success. It was dark when we reached camp.

May 13th was again a very fine day. Sharma, Da Temba and Pan Singh left early to establish Camp I. I stayed back to sort out supplies for the higher camps and Ambastha who was not feeling well also remained behind. The doctor and Pabreja arrived in the afternoon from the Base Camp. Pan Singh returned at about 4 p.m. with the news that they had established Camp I at a place some distance beyond the spot where we left our loads the previous day and that Sharma and Da Temba were staying there. May 14th was a fruitless day as the porters arrived too late to move stores from the Base Camp to Camp I. Next day, Ambastha, Ang Tsering, Pan Singh and I left at about 10 o'clock with loads for Camp I. The weather deteriorated by noon and we were caught in a heavy snowstorm and were completely exhausted by the time we reached Camp I at 5 p.m. The camp-site did not seem a very safe one, but we could not shift it in the blizzard. Sharma and Da Temba told us that they had a narrow escape from an avalanche the previous evening. All night we were alarmed by avalanches roaring down from the northern slopes of Nanda Kot and got no sleep.

The following morning it was still snowing when we left our tents to find a safer site for the camp. There seemed to be a suitable site some distance beyond at the side of a black rock, but there was no easy route to it. Roped to Sharma and Ang Tsering, I cut steps and made a way up to the new site, crossing a number of crevasses and at times passing through knee-deep soft snow. It was an ideal camp-site at a height of 17,600 feet. We then returned to shift our camp. The porters had arrived in the meantime, somewhat exhausted by the heavy snow-fall, and it was with difficulty that we persuaded them to move further up to our new camp. It was after 5-40 p.m. when we reached camp, just too late to hear the special weather bulletin broadcast by All-India Radio, Delhi, for our benefit. In the evening we opened a tin of egg-powder and treated ourselves to omelettes made by Da Temba.

Next day the weather was extremely bad with a gale of more than 60 kilometres an hour blowing. No porters could come up and we remained in our tents all day. The temperature fell to 15° C. below zero. In the evening the special bulletin indicated bad

weather for the next two days. The following morning it was still snowing but the wind had dropped considerably. Ang Tsering and I left to find a route to Camp II, while Sharma and Temba went down to bring up the remainder of the loads at the old camp-site. They descended with great difficulty, making a new route to the old camp as the old route was deep under fresh snow.

Ang Tsering and I also made slow progress in the soft knee-deep snow. In the afternoon when the wind strengthened we were compelled to retreat from a height of about 18,000 feet. The weather bulletin predicted squally weather and occasional snow-showers for the next two days. It was still snowing on May 19th though the wind had dropped. Our limited rations were nearly exhausted, and we anxiously awaited the coolies who had not come for the past two days. The route below our camp was once again buried under fresh snow. I sent the Sherpas down to make a new route for the porters, but they returned at about 1 o'clock without sighting them and we were worried. An hour later we heard shouts and saw four black dots near our old camp. Sharma and I went down and met Ambastha, Pan Singh and two porters. They had left Base Camp at 7-30 a.m. and had done seven hours of treacherous climbing in a heavy snow-fall. They gave us the disheartening news that the other porters had refused to come, and that Pabreja had fallen sick and had not taken anything for two days. In the circumstances I decided to go down to Base Camp. The weather forecast the previous evening indicated a weakening of the western disturbance and fair weather the next day. If we were to achieve our main object we had now to take full advantage of the spell of good weather which could be expected to last for about a week. We had therefore to adopt 'rush tactics' as opposed to the 'siege tactics' which we had adopted so far. The successful Japanese team, which had taken 33 days from Base Camp to the summit, had worked on the 'siege system'; the British team had rushed through on account of lack of time. After instructing Sharma, Ambastha and the Sherpas to establish Camp II if the weather permitted and to reconnoitre beyond, I left for Base Camp. When I arrived there in the evening the weather was clearing and by night the sky was cloudless. Pabreja was now feeling better. It remained to persuade the porters who had gone down to the lower Base Camp to return with us. On May 20th we awoke to a bright and cloudless sky. After two hours of coaxing, four porters agreed to go up with rations and tents. The others refused. We knew we had no chance of reaching the summit without the co-operation of all eight porters. The Japanese and the British teams had

employed twice that number and we could not afford to lose a single man. The willing porters returned in the evening with the news that Camp II had been established at a height of 18,700 feet. Failing to reach any settlement with the reluctant porters, I retired to my tent gloomy and disheartened.

May 21st was another brilliant day. The porters who had been reluctant the previous day were in a better frame of mind. I agreed to increase their daily wages and rations. We reorganized the loads and left camp at about 1 p.m. The doctor and Pabreja stayed back, intending to move up later with the remainder of the baggage. A.I.R.'s forecast promised fair weather for the next 48 hours. The western disturbance was now moving N.E. of Afghanistan and Pabreja, our meteorological adviser, did not think it would affect us.

The next day we needed two porters to go up with us to the higher camps, and fortunately two of them volunteered: Padam Singh and Jai Singh. They were the best porters we had and never gave any trouble. Early in the morning, Temba and I left for Camp II accompanied by Padam Singh and Jai Singh. Ambastha and Pan Singh who were not feeling up to the mark stayed back. Being two short we could not carry all the provisions needed for Camp III. When we reached Camp III at 12.50 p.m. we found no one there. Sharma and Ang Tsering were away exploring the route to Camp III. Padam Singh who had an altitude-headache took to the tent while the three of us went on carrying food and ropes. Within an hour we overtook Sharma and Ang Tsering who had made very slow progress in the past two days. They had barely ascended 500 feet, fixing about 300 feet of rope along a 40 feet wall and a very steep and precipitous ridge. Da Temba and Jai Singh returned. We now found ourselves below a large crevasse. We tried to traverse it from the left and then from the right and finally decided that it had to be attacked directly. Held on the rope by Sharma and Ang Tsering, I cut steps down an almost vertical face of hard ice about 100 feet in height and decided to attempt the gully. After two hours of strenuous and hazardous work, I succeeded in making a route through to the north-east ridge of which Nanda Kot forms the summit. We fixed another 300 feet of rope here and marked the route with red flags. About 5 p.m. we were all tired out and after resting a while, the altimeter showing 19,500, we decided to return.

May 23rd was the fourth successive day of good weather. We were now making satisfactory progress, but we had to await the supplies which were required for Camp III. Sharma and Ang Tsering left early to complete the rest of the route while I stayed behind to make

sure that the necessary stores reached Camp III. Ambastha, Da Temba, Padam Singh and Jai Singh arrived about 11 a.m. and we all left, joining Sharma and Ang Tsering two hours later. About 4 o'clock we halted on the steep snow ridge at about 20,000 feet and after an hour's hard work we levelled a platform and erected a tent. Sharma, Ang Tsering and I, who were to make the attempt, stayed on while the others returned to Camp I since Camp II was without a stove.

Sharma and I went on a little further to get some idea of the next day's climb, but it started to snow and we returned to camp. Supper consisted of chicken soup and an omelette and for the first time we added a sleeping pill to our daily dose of multi-vitamin and B complex tablets. One sleeping pill did not seem to make much difference, however, as we hardly got a couple of hours' sleep, but we had been warned by the doctor against taking more.

The following morning broke calm and clear. We awoke at about 5 a.m. and Ang Tsering prepared soup and cocoa. Melting the snow was a long and tedious process. Our boots, which we had kept under our sleeping-bags, were still hard and we had to hold them round the stove to warm and soften them. After breakfasting on cocoa and soup and filling our pockets with dried fruit, we left camp at about 7.30 a.m.

Two hours later it started blowing, and a blizzard checked all progress. I wanted to go on for a while, but about 11.30 Ang Tsering who was exhausted could go no further. Sharma, too, was very tired and so with no sign of the storm abating, we decided to retreat. Two hours later we were back again in the tent, cold, wet and dissipated, with nothing to do but face another sleepless night in Camp III. After an early supper at 5.30 p.m. and a sleeping pill and vitamin tablets, we buried ourselves in our sleeping-bags, hoping that the storm would blow itself out by next morning.

The sleeping pill again had no effect and I hardly got two hours' sleep. All through the night I prayed fervently for fair weather. At about 1 a.m. I looked out through the small ventilator of the tent and was overjoyed to see a starry sky. The storm had blown itself out. I thought the only way to succeed was to make an early start. So I woke Sardar Ang Tsering telling him it was 2 o'clock, but he sleepily mumbled: *Bara Sahib, tin baje uthe ga.* Promptly at 2 a.m. I shook him again.

The three of us breakfasted on soup and some dried fruit and filled our flasks with cocoa. After offering prayers to Guru Tegh Bahadur Sahib and the Goddess Nanda Devi, we left Camp confidently at 5 a.m.

I led and after an hour we decided to gain the main ridge. To do this we had to climb a very steep slope about 150 feet high, mostly composed of soft snow. Held on the rope by Sharma and Ang Tsering, I cut steps and in less than an hour we were on top of the wall. From here we had a glimpse of the peak which still seemed a long way off. Half an hour later we were at the foot of a big dome which led to the summit.

The dome was covered with hard ice. We put on crampons and started up it in a light breeze. Traversing many crevasses we reached the top of the dome about 10.30 a.m. We were now about 800 feet below the summit. The dome was connected to the summit by a steep ridge which fell away sheer on one side to the Nanda Kot Glacier, 5,000 feet below. The ice-slope was so steep that it looked almost vertical.

We had now to cross over a knife-edge ridge to get on the steep ice-slope leading to the summit. From here we could see both Camp I and Camp II. We shouted *Nanda Devi ki Jai!* and our shouts were acknowledged from below. We soon saw seven dots moving up from Camp I. Then Ang Tsering who had been moving with difficulty complained of trouble with his feet and said he could go no further. I asked him to unrope. Sharma, too, was very exhausted but he was determined to push on, and we both continued along the hair-raising slope. We seemed to move by inches. Our safety now depended on firm belaying of each other and we did this very carefully. Sharma was getting slower and slower, and I began to doubt whether he would make the summit. I suggested that he should rest while I went on alone, but he said that he could not let me go on alone and that if we went slow we would make it. I admired his courage. He had worked hard with the expedition and deserved to get to the top.

At 2.20 p.m., after three hours of exhausting climbing, I lifted myself on my elbows and muttering *Nanda Devi ki Jai* literally crawled on to the summit of Nanda Kot. I could hardly believe myself and looked around to make sure I was on top. A long-cherished ambition had been fulfilled. Tears came to my eyes. Sharma crawled on to the summit close behind me. The sight of the summit had given him a spurt of energy. Involuntarily we embraced each other.

The air was calm and clear. We could see the twin peaks of Nanda Devi, Trishul, Pancholi, the Badri Nath massif and the Tibetan plateau. We hoisted the National Flag and the Naval Ensign and buried another National Flag together with a pair of gloves presented to us by the Naval Officers' Wives Association and

some *prasad*. The summit, which we had thought would be a platform about 500 feet long, was only about 25 feet and hardly 15 feet wide. It had not been described by the Japanese Expedition of 1936.

We treated ourselves to a tin of peaches and took a large number of movie and still shots. After an hour's stay at the top, we began the return. Cumulus clouds were appearing on the horizon and the weather was again deteriorating. Still, with our crampons on and roped together we moved fast. Ang Tsering who was waiting on top of the dome, congratulated us. We reached Camp III at about 5.30 p.m. Da Temba, Pan Singh and Jai Singh were overjoyed to find all three of us together; seeing only two making the final assault they wondered what had happened. After a welcome cup of cocoa we made for Camp II. Dr. Sharma, Pabreja, Ambastha and Padam Singh, who were waiting about 800 feet below Camp III, gave us a very warm reception.

Shuffling, stumbling and sliding we reached Camp I about 8 p.m. and spent a third sleepless night, due this time to thirst. We started the return journey next day and using 'rush tactics' reached Delhi ten days later.

In retrospect I think we were very lucky in our venture. The weather deteriorated soon after our assault and the sky did not clear again for ten days. We were all lovers of mountains and developed an excellent team spirit which was mainly responsible for our success. The new route to the Advance Base Camp had saved us an additional camp—all previous expeditions had six camps while we had only five.

HIMALAYAN SCIENTIFIC AND MOUNTAINEERING EXPEDITION, 1960-61

PART II *

THE ASCENT OF AMA DABLAM

By M. B. Gill

'Ama Dablam is of white granite and rises like a fang to canopy the Unja Valley . . . It is so sheer and smooth that even ice cannot stick to it . . .'

Daily Herald.

'Ama Dablam is a difficult mountain.'

The Times.

WHATEVER other memories may have vanished, the traveller who has walked the paths of the Solu Khumbu must surely carry back with him the picture of Thyangboche Monastery, perched on its tiny spur high above the gorge of the Dudh Kosi, and behind it, soaring serenely upwards, the colossal rock and ice monolith of 'Ama Dablam'. 'Ama' is 'mother' in the Sherpa language, 'dablang' a locket worn around the neck; whenever one goes in the Solu Khumbu she may be seen, the delicate rock ridges that are her arms extended as if to embrace the diminutive villages and pastures lying at her feet, and on her bosom a gleaming 'dablang' of ice.

Surely this mountain is impossible is one's reaction at first sight; but by the end of an autumn and a winter living beside it, we had seen a way through to the summit. Others had looked before us: the Sherpas told of a small reconnaissance party in 1955 which had started on the rocks of the south (Mingbo) ridge; and in 1958, Cunningham, a member of Alf Gregory's English party, had put in two camps on the same ridge and reached 19,500 feet before turning back at an overhang. In 1959 a determined attempt ended in tragedy; Harris and Frazer, two of Britain's finest climbers, were last seen at a height of 21,000 feet on the north ridge before being swallowed in the clouds, never to return.

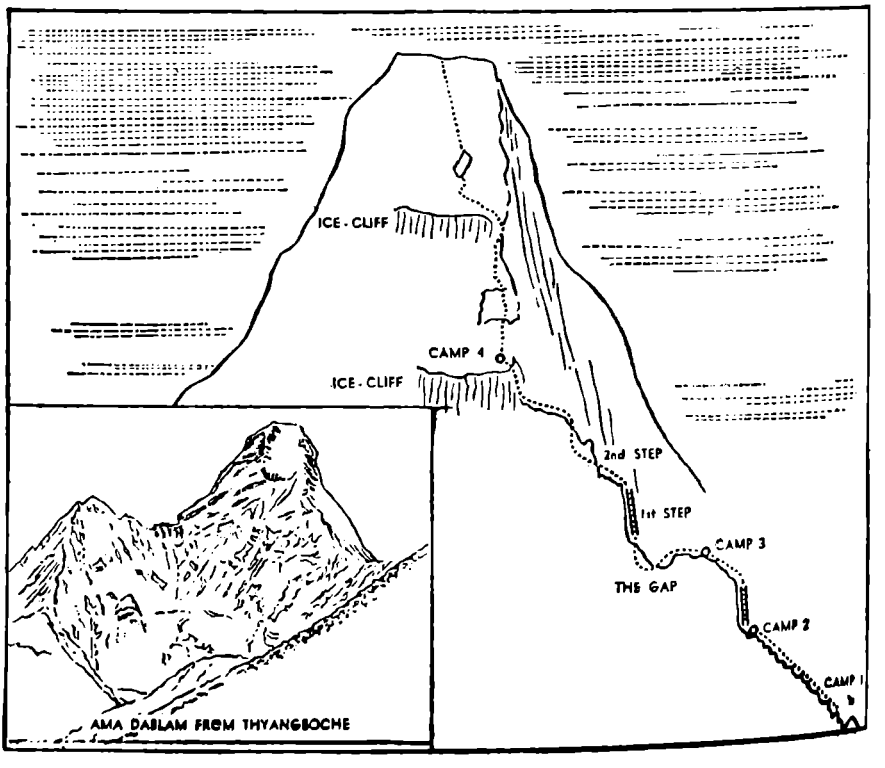
*Part I of this Expedition was published in Vol. XXII on p. 141.

Our winter camps were on the south side of the mountain with the Mingbo ridge dropping down into the high pastures and moraines between Mingbo Scientific Base, 15,300 feet, and Silver Hut, 19,000 feet. Since this was the ridge on which we saw our route, a brief technical description might be relevant. Below 19,000 feet it is merely a few easy slabs showing through a broad sweep of scree, but above this height there is a dramatic change: the jagged blade of the ridge proper is abruptly upthrust from the surrounding slopes to rise in a series of steepening steps to the great ice-bulge at the foot of the final snow-face. The two most notable of these rises were referred to as the first and second steps and constituted the most obvious difficulty on the route. At the foot of the second step was ' the Gap ', a relatively level section which probably would provide a camp-site; below this the general angle of the ridge lessened, but the crest looked to be of so tenuous a nature that its length might be an insuperable barrier to the carrying of loads.

By mid-February, with the scientific programme well in hand and the arrival date of the Makalu party drawing near, we decided to look more closely at our route. Wally Romanes and Pemba Tensing set out on the reconnaissance on February 18th, carrying a light camp, supplies for two days and a radio which was to provide contact with Silver Hut throughout the following month. The only necessity they lacked was permission to be on the mountain—but that is part of the Makalu story. Through the big telescope at Silver Hut the others of us watched their progress with interest; Camp I became visible as a bright yellow speck on the boulder-strewn slopes at 19,000 feet; the following day two tiny figures climbed slowly upwards silhouetted against the vast luminous background of sky and mountain beyond them. From the ease of their movements we judged that the lower rocks anyway were not excessively difficult. We heard their story on the radio that night: at 19,500 feet they had been brought to an abrupt halt by an 80-foot wall guarded by an overhang, with no possibility of sliding past it—probably the highest point reached by Cunningham three years earlier. The best news was that at the foot of this pitch was the perfect site for Camp II. Altogether it was an encouraging start.

Enthusiasm was gathering momentum at the Silver Hut and that night the snow cave was emptied of its stores of climbing equipment: pitons were sorted, rope-ladders checked over and coils of manilla disentangled. To Mike Ward and Barry Bishop fell the task of establishing Camp II and starting the assault on the overhangs above. Several more Sherpas were brought in to carry up Camp II though as yet none was to sleep there. A well-laden party set off

next day under a brilliant and cloudless sky, a blessing that we were to enjoy every day in the month to follow. Camp II is worth describing in some detail for it was superbly sited. After an hour or so of strenuous hauling up the cracks, chimneys and slabs of the lower ridge a broad ledge led out on the Silver Hut side. Here, fortuitously, clinging to the side of the ridge like a giant limpet, was a bulge of ice presenting a roomy ledge which held all our tents, nestling into a warm shallow cirque in the rock behind. And looming over our heads was the wall that formed the next part of the route. Rappelling down this later became routine, but the sight never became less than spectacular—to see a figure appear on the rock shoulder high above, in the late afternoon sun, wind the rope round thigh and shoulder and glide swiftly down to the lower ledges and the camp. The ascent of this section was a considerable feat on the part of Ward and Bishop. For a day and a half, with the help of some 20 pitons, they fought their way up the slender cracks and smooth slabs. Artificial climbing is an exhausting procedure at this altitude where a powerful muscular effort cannot be sustained for long before one is brought to a panting halt by acute respiratory distress. When they stepped on to the easy upper section and fixed



our long ladder, the first major obstacle of the climb had been overcome and we were free to tackle the next problem.

Meanwhile, at Green Hut, Romanes had recovered his strength and he now returned, as the third occupant of Camp II, ready for the attempt on the first step next day. Half a dozen rope-lengths beyond the ladder was the Gap and past this a steep ice-slope leading to the foot of the first step, now revealed as a smooth vertical wall for its first 100 feet. Vertical walls are frequently described but seldom encountered of such verticality that a rope hung down from above dangles free—but this one stood the test. Fortunately its smoothness was broken by a wide central crack ; for some this might have been an airy piece of free-climbing, but for us it was another long bout of hammering. This was fine climbing on the part of Bishop, Romanes and Ward involving much use of etriers, pitons, paired ropes, and all the rest of the paraphernalia. After two days' hard work the second ladder was in position and the 300 feet of rock beyond this had been climbed—still alarmingly steep, but far enough from the perpendicular to be considerably easier. This was the only part of the climb exposed to the withering blast of the wind sweeping up from the lower Mingbo Valley, but even here the brilliance of the sun was always there to temper the chill.

When the successful party returned to Camp II that evening, I had arrived there, tremendously impressed by what I could see of the upper part of the mountain and by the awe-inspiring pitches already overcome by the others. Between us and the great ice 'dablang' where we were expecting to place our final camp there remained only 'the second step'. Romanes still seemed as fit as ever and was keen to carry on with me the next day. Beyond the highest point of the previous day we encountered some curiously hollow and rotten ice, up which we carved a precarious collection of steps. We halted to consider the alternatives: there was a fine steep buttress immediately above, fashioned of rock, which at home might have delighted any climber but which here, at 20,000 feet, was obviously a two-day job ; the second possibility lay to the left, up and across a rotten gully nostalgically reminiscent of the Southern Alps. Dangerous though it was we had little option but to take the gully. Gingerly we stepped across from one tottering boulder to the next, watching with interest the looser rocks bounding over the precipice where the gully terminated. Time ran out soon after reaching a snow rib on the other side, but we could see our way clear to the ridge above and the second step was no longer a problem.

Ward, Bishop and Romanes felt that by now they were due to be retired to Green Hut for a rest. I was loath to join them myself,

having taken a liking to Camp II and a considerable dislike to the lengthy reaches of rubble below. So far we had managed at Camp II without Sherpas, but it seemed that we could well use them now—the thought of carrying Camp III entirely on our own shoulders being apt to cause despondency even amongst the most independent of us. Pemba Tensing and Gumi Dorji eventually came up, a cheerful pair ; Pemba Tensing in particular, being much given to singing. They lost much of their good cheer when they looked more closely at the ladder hanging ominously over the camp and realized that they too were expected to climb this. Both shook their heads and agreed emphatically that it was a very bad route. Gumi fortunately proved to be fairly adaptable and went up with some speed ; and finally the pale, sweating, but grimly determined face of Pemba Tensing also appeared at the top of the ladder ; we could be sure of their assistance as far as the Gap at least.

The others returned after four days, well rested and ready to launch the final assault. Fundamentally the plan must be to establish a well-stocked camp on the ' dablang ', but the details gave rise to lengthy discussions: tents or snow cave, two climbers or four for the summit, Sherpas or no Sherpas, how many days from high camp to the summit, and so on. Eventually we postponed major decisions and decided to establish Camp III in the Gap ; this admittedly left us only two hundred feet higher but in time this had been costing us two hours each day. Camp III was another camp that easily encouraged indolence: three rock platforms gathering all the warmth of the sun ; we could look down on Silver Hut, now well below us, and see the occasional black dot moving on the glacier, the figure of a Sherpa going up from Green Hut or the slower movement of a sahib ; and often the swift, usually graceful, descent of a skier.

It was now March 8th, nearly three weeks after Ronaines' reconnaissance. The route to IV had still to be completed, and this we did in the following two days. Another day was spent carrying up 60 pounds of food and equipment, using sahibs only for the porterage, to the Sherpas' great relief. On the 11th the summit assault began. It was a day I would forget if I could, a day of unremitting struggle against what Tilman calls ' mountaineer's foot ': reluctance to put one in front of the other. Beyond the second step the ridge was of easy rock and strangely wind-sculptured snow leading via a ten-foot ice-wall to a broad open snow ledge that was to be our camp. We had not carried tents, partly because the snow had looked suitable for caving and partly because we couldn't have carried the extra 40 pounds anyway. Our first project, an igloo, gave us little joy ; even the optimist could hardly see in these poor tottering walls

the graceful dome we had imagined ; a snow cave it must be. The compensation for the exhausting one-man bouts of digging that continued through the few remaining hours of daylight and far into the night, was that one could sit back resting with a clear conscience and contemplate the scene in peace, as fine a mountain camp-site as I have known. We were looking from a new angle at the long familiar skyline of peaks: the awful precipices of Kangtega, the spires of Menlungtse where the Yetis live, the massive Dongiragutao rising north of the Tesi Lapcha, Karyolung and Numbur, whose ridges we used to see from Silver Hut, catch the last rays of the setting sun. We saw the darkness gather round us without dismay for the sky was clear and the wind not troubling us ; if there be gods on Ama Dablam they were for us it seemed. We prepared a substantial meal and finally, after midnight, fell into the deep sleep of exhaustion.

The following day found us with little inclination to stir early. The summit attempt could wait a day leaving us time to prepare the lower part of the route, improve the cave, and, most important, rest and recover our strength. The final pyramid rose directly before us; the Mingbo ridge now ceased to be distinct and became merely the corner between two faces, the one a sheer rock-wall facing Silver Hut, the other, of gentler aspect, the snow-face one sees in the view from Khumjung or Thyangboche. Half-way up a line of ice-cliffs stretched across menacing the whole lower face except the extreme right-hand edge. Above this only lack of time could keep us from the summit we thought. On this first day at Camp IV Romanes and Ward, the fittest pair, put in some splendid work on the lower section, cutting steps, fixing a rope and so putting us in a strong position for the summit.

We were away before 8 a.m. on the 13th, our summit day. Progress was steady over moderately difficult ground ; a few patches of ice, a few awkward moves on the rock, all of it steep. At the point where the ice-cliffs seemingly blocked our way, an alarmingly exposed strip of rock allowed us to slip past and through to the open snow-face beyond. This was about the half-way mark, the point reached yesterday. The face above was scalloped out in huge flutings and it was up the most prominent of these that we proposed to climb. At first we struck ice but this soon gave way to crisp snow as we drew up to a rock outcrop standing prominently on our fluting. Here we rested ; it was 12.30 p.m., two-thirds of the day's climb was below us, and we were separated from the summit only by an easy snow rib. With mounting elation we climbed on as rapidly as the thin air would allow us, scraping and kicking, rope-length

after rope-length. At 2.30 p.m. we stepped on to the summit, not the blade of ice we had imagined but a broad plateau split by a narrow crevasse. Directly ahead loomed the colossus of Everest, no longer squatting behind the Lhotse-Nuptse wall but for the first time massively dominating the whole fantastic landscape. To its right stood Makalu, gracefully proportioned despite its bulk; and in between a vista of rolling brown hills stretched to the horizon where a shaft of light through the clouds played on the snows of a range far inside Tibet.

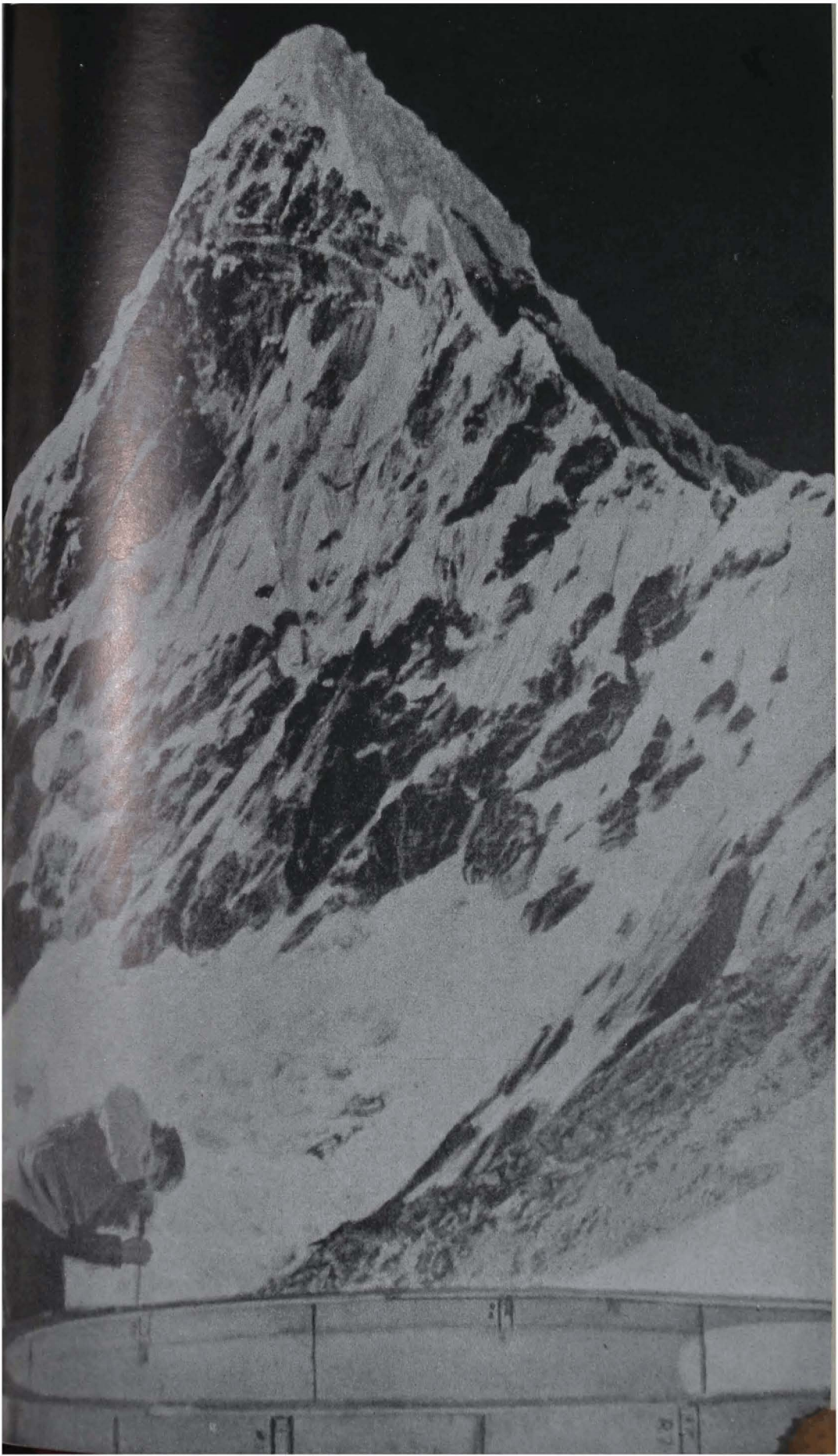
Before dropping off back down the Mingbo face we peered down the north ridge on which Harris and Frazer had made their last climb. We were appalled at the steepness of the final ice-ridge and the ferocious severity of the knife-edge rock falling away below it. Why had they chosen this route, we wondered . . .

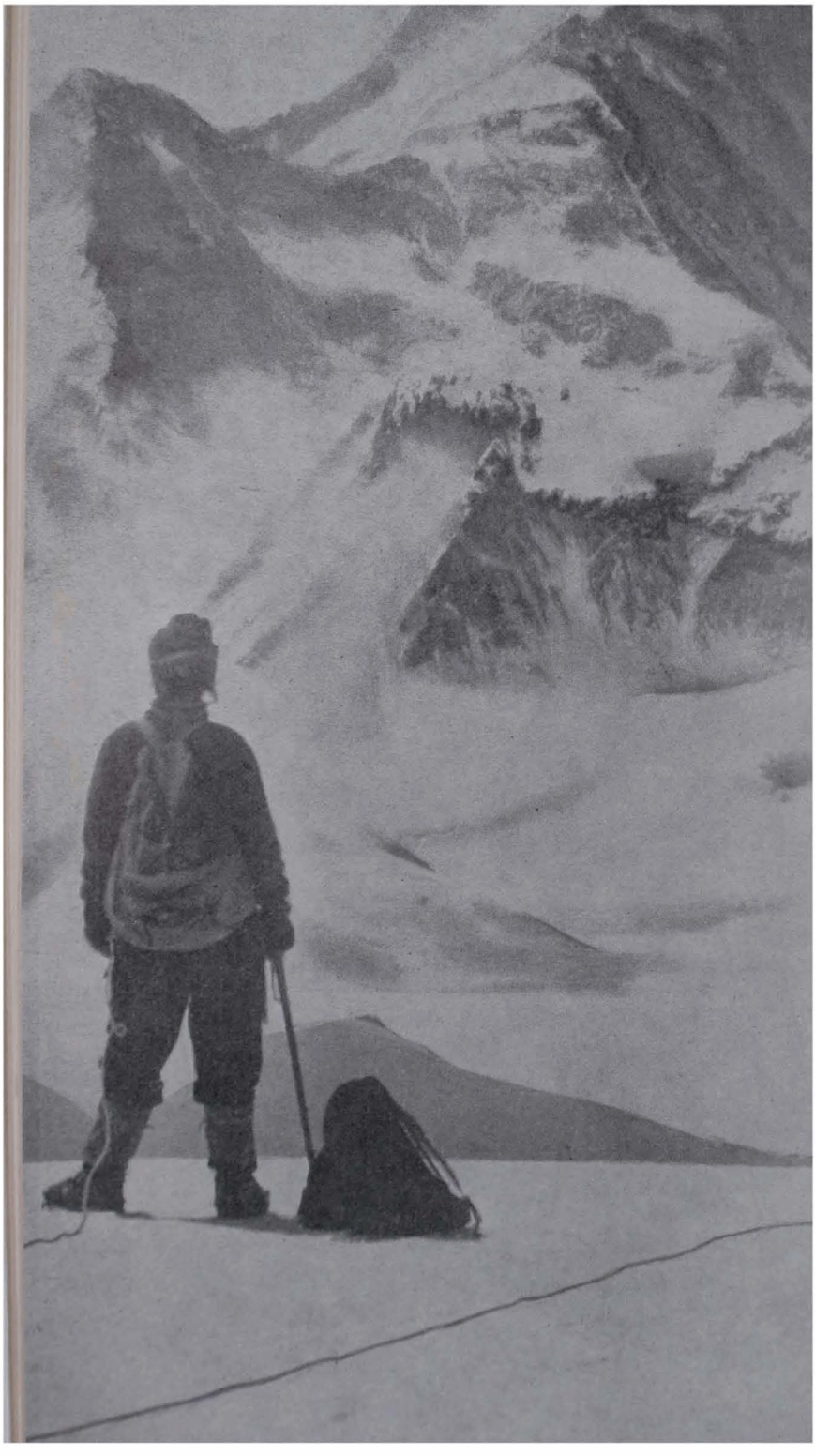
The descent may be passed over quickly; we moved singly, the tedium relieved only by anxiety and relief as the more difficult pitches were approached and passed. It was a relief, too, to rejoin the Sherpas at III: they beamed happily at us, as pleased as we were, and plied us with mugs of hot, syrupy tea: 'Shabash! Very good summit, sahibs.' Between III and II Romanes engineered an overhead ropeway which took our loads down in quick time, and at II we were met by two Sherpas from Green Hut. The sahibs shouldered 40 pounds while the Sherpas took 60–80 pounds each rather than make a return trip the following day. The last of our difficulties was behind us, the pressure was off, and that evening we would be relaxing at Mingbo.

But it was not to be. Two rope-lengths down the ridge we found the Sherpas supporting Gumi Dorji, in pain and terribly afraid. 'Broken sahib—I will die . . .' We looked and saw one leg hanging uselessly from a transverse fracture half-way up the shin; he had stood on a loose rock which gave way beneath the weight of his too-heavy pack and in a fall of ten feet his leg had snapped. God! . . . Why did this have to happen now when in an hour we would have been off the mountain? . . . How on earth would we get him down the chaotic tangle of cracks, chimneys and gullies that barred our way below? Before they had been easy but with an injured man on our hands they suddenly looked impossibly difficult. No use brooding on the change of our luck, anyway; we must act somehow, devise some sort of plan. Ward splinted the leg with an ice-

Photo: N. D. Hardie

AMA DABLAM REARS ABOVE THE SITE OF SILVER HUT (HERE UNDER CONSTRUCTION). THE ROUTE OF ASCENT IS ON, THEN BEHIND, THE LEFT SKYLINE (SEE LINE SKETCH IN TEXT FOR COMPLETE ROUTE)





axe and pieces of a cardboard food box and gave a morphine injection. Reluctantly we admitted that a Sherpa would not be able to negotiate the rock below on which they had had difficulty even with an ordinary load. This would have to be a sahib job.

We devised a system whereby Ward and I alternated, carrying and assisting, while Romanes manoeuvred himself into position above so that the belay was always as near to giving vertical support as was possible. Meanwhile Bishop supervised the Sherpas carrying down essential loads. Progress was pitifully slow; we needed the strength of a Sherpa with the ability of an experienced rock-climber, a combination not found amongst our porters. After four hours' determined effort we were still only half-way down and an ominous sky had closed in bringing snow. Anxiously we looked around for the suggestion of a spot level enough for a tent, and eventually spied a debris-covered ledge 100 feet down which would yield one platform; further below we could probably construct another in a small gully half-choked with rubble. In the fading light with snow silently covering the rocks we built a makeshift camp and settled down for a weary night, short of food and with no fuel.

Although the morning dawned clear we could not move early because of the snow, which had not melted sufficiently until near midday. We started badly with a difficult move pendulum fashion across the steep smooth slabs, but once the ridge had been regained we moved more rapidly. At last the worst was behind us and a Sherpa could take over. In the meantime Silver Hut had been informed by radio of our troubles and food, fuel and more porters had been dispatched. But again the clouds descended on us, snow fell making carrying difficult over the boulder-strewn slopes and we were obliged to scratch out another bleak temporary camp.

The next day was our last on Ama Dablam. Again the sun rose in a cloudless sky, the snow soon thawed and we knew we would reach Mingbo camp that day. It was March 18th, exactly a month from the first day of the reconnaissance.

PART III

MAKALU

By J. Harrison

On May 18th, 1954, Sir Edmund Hillary became seriously ill at 22,000 feet on Mount Makalu, and his evacuation caused the

Photo: N. D. Hardie

THE TWO PEAKS OF MAKALU FROM THE SUMMIT OF PETHANGTSE. THE ROUTE FROM ABOVE CAMP IV IS VISIBLE (CF. LINE SKETCH)

New Zealand Alpine Club's reconnaissance of the mountain to be called off. Previous to this, whilst on the other side of the mountain an American expedition was repulsed, Hillary's party had found a feasible route up the slopes of the north-western cirque which promised to give access to Makalu Col. The following autumn an oxygen-assisted French expedition, which has been described as one of the strongest ever assembled in the Himalaya, completed the route to the 24,300-foot col and, from a camp there, made ascents of 25,120-foot Makalu II and 25,580-foot Chomo Lonzo, both of which presented them with little difficulty. In the spring of 1955 they returned, and, in perfect conditions, the entire party reached the summit of Makalu itself. Continuous use of oxygen was made above 23,000 feet. This tremendous feat is described in Jean Franco's well-written book.

It was on March 24th seven years later that I reached Namche Bazaar, on my way in with the last baggage train of the 1960-61 Himalayan Scientific and Mountaineering Expedition. Imagine my reaction when I was politely informed by the Indian check-post captain that, owing to the unscheduled ascent of Ama Dablam, permission to attempt Makalu had been cancelled and the expedition recalled to Kathmandu. At first I laughed and said it was time we had a crisis ; then gradually the seriousness of the situation sank in as the good captain informed me that I would have to be ' detained '.

Hillary flew out to Kathmandu and threw himself, with characteristic vigour, into several days of diplomatic wrangling out of which he finally emerged victorious, and thus we were eventually united in the Mingbo Valley.

It was with the greatest respect for our victorious predecessors that we first gazed at Makalu's summit from Ama Dablam Col. Ahead of us was an ambitious programme. To reach the base of our objective we first had to transport our 200 odd loads (which had already been carried 100 miles from Kathmandu) over three difficult passes at 19,500 feet, 20,350 feet and 20,000 feet respectively. Each required much preparation and fixed ropes had to be installed. To attack this mammoth carrying task we had equipped 50 Sherpas, many of whom were on their first expedition.

Late in March these cheerful toilers began to carry by relaying all the loads from Mingbo to Green Hut, and from there to Silver Hut. Above here, extremely steep flutings 400 feet high led to Ama Dablam Col, and up this section we carved an airy stairway and fixed a continuous rope. On April 3rd, Romanes, Ortenberger, Urkien, Annallu and Da Tensing crossed the col and descended the long slopes to the floor of the Hongu Valley. The following day

they found an ideal camp-site for the next stage. Meanwhile the main body of Sherpas was relaying loads to Ama Dablam Col. On April 7th, I accompanied 33 of them to the Hongu camp which in no time boasted two stone shelters and an array of small tents. At first we thought the relay from Ama Dablam Col down to Hongu camp was a long one, but the next two were to prove longer.

On April 6th, Romanes and Annallu had reconnoitred a route to West Col and on the 8th Ortenberger and I, with Pemba Tensing and Pasang Tensing, consolidated the route clearing snow, cutting steps and fixing 500 feet of rope on the steep rib of mixed rock and ice below the col. The lift was now in full swing, and Sherpas toiled on the relays between Ama Dablam Col, Hongu camp and West Col; Hillary, Mulgrew and Nevison arrived at Hongu camp, and Romanes, Ortenberger, Nevison and I, with Pemba and Pasang Tensing, took up residence on West Col. From there we reconnoitred and prepared the last stage of the route to the Barun. This consisted of an hour's trudge across a glaciated plateau to the 20,000-foot East Col, from which we had a magnificent and humbling view of the whole towering bulk of Makalu. Ortenberger later commented, 'There was a bloody big mountain in front of us.'

Below the col a rock rib, on which we fixed ropes, led to a glacier, some rough boulders and a spur; then finally Camp I at 17,000 feet, on a moraine terrace above the Barun Glacier. On April 17th, Hillary and Mulgrew escorted the first Sherpa lift over the last section, and by the 22nd all ten sahibs and all the Sherpas were installed in the Barun. On the 24th the last of the loads arrived to complete perhaps the longest high lift ever undertaken to reach a mountain. We were now a very fit team.

Camp II at 19,500 feet and Camp III at 21,250 feet were rapidly established, and on the last day of April, Nevison and I, with Mingma and Ang Temba, made our way across the terraced ice-cliffs under Makalu Col. Above us reared an ice-bulge on top of which it was hoped to establish Camp IV. Up steepening slopes leading to a couloir we cut a 500-foot line of steps. Our work was made safe by the many pitons we placed for the fixed rope which we unravelled on our descent. We regained camp just before dark, tired and happy with our day's progress.

The following day, Mulgrew, Ortenberger and Annallu took over the attack, and they were succeeded by Hillary and Romanes. Our line of steps and fixed ropes was now complete, and Ward, Gill, Urkien and Nima Dorji were able to take up residence on the 23,000-foot aerial platform of Camp IV. Two days later, Romanes,

MT. MAKALU, 27,790 FEET, SHOWING ROUTE, CAMPS AND HIGHEST POINT REACHED

Pemba Tensing, Mingma and I relieved them. They had won their way through to the 24,300-foot col and installed 500 feet of fixed rope immediately above the camp. As they descended out of the mist we greeted the tiredest looking men I had ever seen. I wondered what condition we should be in after two days up here where our French predecessors had used oxygen.

On May 6th and 7th, in stern weather, we consolidated the exposed route above, and installed a further 1,500 feet of rope. This, in conjunction with some of the old French ropes, now gave us a continuous handrail from just above Camp IV right to the col. Everything was now ready for the big lift to the col, and as we descended to Camp III we had good reason to be pleased with our progress. We had more than regained the time lost over the diplomatic upset, and were now two days ahead of the French time-table. At Camp IV, Mulgrew, Ortenberger and 23 Sherpas were settling in for the night. Tomorrow, bound for the col, they would be carrying everything from a bicycle to a bundle of marker-flags. The scientific programme was in full swing, and with the aid of some complex electronic equipment and the said bicycle, the physiological programme which had been instituted during the winter was carried still higher.

But we were due for a shock! At noon next day, as I watched the long file of black specks slowly making their way up the steep rocks to the col, my elation was rudely shattered by the news on the radio that at Camp II Hillary had suffered a mild stroke and would have to be evacuated immediately. In the next few days he moved down to 15,000 feet, under the care of Milledge who generously offered to forsake the mountain to take care of our protesting leader.

Ward now took over the responsibility of leadership, and on the 10th, Ward, Romanes, Gill and Ortenberger left Camp II for Makalu Col, accompanied by a large group of Sherpas. One day behind them was Nevison, and two days behind were Mulgrew and I. By the time we reached Camp V on the col, Romanes, Gill and Ortenberger had established Camp VI at 25,800 feet on the Tibetan face, and we were struggling with the route to Camp VII from which it was hoped they would be able to attempt the summit next day. In the wildly flapping Blanchard tent at Camp V we found Ward, West and Nevison busy with their scientific apparatus. Above this camp rose the last few thousand feet of our mountain, presenting nothing more difficult than that which we had already overcome. The wind roared in our ears, and we wondered how the first assault trio was faring up above. Tomorrow, Ward, Mulgrew, Nevison and I would be following them as the second assault.

On the radio link next morning, Romanes announced from Camp VI that yesterday, in deteriorating weather, they had battled their way up from Camp VI till, with their faces thickly sheathed in ice, and with little visibility, they were forced to retreat. They told us they would be coming down, and four hours later they arrived.

Gill's nose was black with frost-bite and they were all utterly exhausted. They had performed well, and made a more direct route than that used by the French, but they attributed their downfall to an under-estimation of the effect of the severe buffeting of the wind yesterday on their physical condition. It was their opinion that the summit party should do as little work as possible below Camp VII.

Accordingly another plan was made, whereby Mulgrew, Nevison and Annallu would complete the route to Camp VII and if possible attempt the summit, followed two days later by an all-out summit bid by Ward, Urkien and myself.

Next day, as arranged, the former trio set off for Camp VI with five Sherpas, while Gill and West went down to Camp III. Meanwhile at Camp V, Romanes's and Ward's physical condition deteriorated and they were forced to use oxygen. On the 17th, Romanes was no better, and in the care of three Sherpas he reluctantly descended to Camp III.

On May 18th we had hoped that the first party would stand on the summit. On the col the wind continued to flog the tents unmercifully while we waited anxiously for the return of the Sherpas who had carried to Camp VII, before setting out ourselves. At 11 a.m. two of them arrived with the news that yesterday the Sherpas had been involved in a fall and Ang Temba was now at Camp VI with an ankle out of action and in need of attention. Though he realized that he was now incapable of reaching the summit himself, Ward, in order to give Ortenberger (who had by now recovered) and me a chance, summoned his last reserves, and, using oxygen, set off for Camp VI. From there he radioed back the sad news that Ang Temba would have to be carried down by our assault Sherpas.

The following day Ortenberger and I took all the Sherpas we could muster to Camp VI, and while Ortenberger, Pemba Tensing, Pasang Tensing and I dug in for the night, a very tottery Ward escorted the rescue team down to the col. Snow whirled about us as, on the tiny shelf of Camp VI, our faces frosted up, we laboriously dug the tents out to make them habitable. We were a little anxious for the safety of the three men above us; and with Hillary, Milledge, Gill, Romanes and Ward all out of action, we were now down to four sahibs—a very weak party.

Then, at 3 p.m., Annallu suddenly appeared with the news that Mulgrew and Nevison were half-way down from Camp VII where Mulgrew had completely collapsed. They needed a tent and oxygen. Fortunately Ward had left his oxygen set which still contained a

quarter of a bottle, so this was dispatched, together with one of our tents, with our two Sherpas. Annallu, who was nursing a cracked rib, continued on down to Camp V bearing a note for Ward to send up more oxygen urgently. As darkness fell the two Tensings returned from above and the four of us squeezed into the remaining tent at VI for the night.

Next morning, despite repeated attempts to make radio contact with Ward at Camp V, we could get no reply. Urgent assistance from below was essential, and it was decided that while one of us went up with the two Sherpas and a radio, the other must descend and organize from Camp V. We tossed for jobs—a 'Hibitane' pill taking the place of a coin. Ortenberger won and I descended.

With a hefty pack on my back I found that I could barely manage to struggle into the biting wind, and it was with great relief that I collapsed through the entrance of the wildly flapping Blanchard. There I was confronted with a prostrate and glassy-eyed Ward who asked in a shaking voice, 'Who are you?' Realizing that he was delirious I arranged an oxygen set to help his feeble breathing, and then got busy with the radio to make contact with Ortenberger who had by then reached Mulgrew and Nevison. He informed me that more oxygen would be required before Mulgrew could be shifted. On the life-saving radio (designed by Mulgrew) I asked Romanes at Camp III to send up more oxygen and all available Sherpas as Camp V was practically deserted, all effective Sherpas having gone down with the injured Ang Temba.

That evening Nevison staggered in with Pemba and Pasang Tensing and from him I was able to piece together what had been happening up the mountain.

On the 18th they had set out from the 27,000-foot Camp VII in a bold bid for the summit. At 27,400 feet they were forced to turn back with Mulgrew vomiting blood, Nevison feeling unwell and Annallu complaining of pains in the chest. The night was spent at Camp VII, and on the 19th they packed up sleeping-bags and lilos and set out for Camp VI. Half-way down Mulgrew became too weak to continue, so while the two sahibs sheltered in the lee of a sérac, Annallu was sent down for help.

That evening our Sherpas paid them a visit with the tent into which they were glad to move. Unfortunately the oxygen which we had sent was only sufficient for the night. Next morning Nevison was showing signs of pneumonia, so when Ortenberger and the Sherpas arrived it was decided that they should take Nevison down to the col while Ortenberger and Mulgrew would remain where they were till more oxygen and manpower could be sent up.

Nevison now attended to Ward, and together they inhaled the precious, life-giving oxygen, while I busied myself with the ever unreliable butane cookers in an effort to combat our mounting dehydration.

Next day we sent up six Sherpas, and with the aid of more oxygen they were able to bring Mulgrew down to Camp VI where they spent the night crammed into the two small tents. The cramped quarters were really a blessing to the Sherpas who were without sleeping-bags.

Half-way through the next afternoon a strong team of Sherpas came up headed by John West. Using oxygen this Australian physiologist, who was on his first high mountain, came amongst us like a whirlwind—a wonderful breath of fresh air. Only then did I realize how badly we had all deteriorated. Ward's condition was now really alarming, and when he and Nevison had both been fitted with oxygen sets they were entrusted to a band of Sherpas and set off downwards.

The next day was my ninth above 24,000 feet, and I was feeling the effects. What little water we had been able to melt I had given to Ward and Nevison, and in consequence had a lump in my throat the size of a tennis ball. Since Camp VI my toes had been without any feeling, and now the soles of my feet became very painful to walk on. We decided it was time to make a concerted effort to repair the cookers, but the proper tools for doing this had long since disappeared. West came to the rescue with some ingeniously adapted surgical instruments, and after prolonged fiddling we got the wretched cookers to heat and were able to satisfy our raging thirsts and, what was more important still, lay in a liquid supply for those above.

During the morning the Sherpas appeared, but without Ortenberger or the now helpless Mulgrew. Urkien explained that they started down from Camp VI too heavily laden and too weak to be of much assistance. Accordingly they left the sahibs (who were quite sure they were being deserted) and came on down with their heavy loads. They assured us they would have the sahibs down by nightfall. After satisfying their thirst and hunger they bravely set off upwards again, carrying food and hot drinks.

I was filled with a terrific desire to attempt some heroics and longed for an oxygen set, but in my heart I knew that the Sherpas were doing all that was humanly possible, and that the best thing West and I could do was stand by the radio, get as much liquid ready as possible, and, most important of all, keep our sleeping-

bags warmed for the expected arrivals. Meanwhile Sherpas arrived from below with another bottle of oxygen.

We became more and more anxious as each hour passed, till, about 8 p.m., above the roar of the wind, the sound of voices heralded the arrival of the rescue party. First Ortenberger, then Mulgrew, were lowered out of the darkness through the tent doorway. Both were covered in ice, and it took us some time before we had removed crampons and boots and enough outer clothing to enable us to slide them into our warm bags. Mulgrew's colour was dreadful, his eyes were sunken and lifeless, and his breath came in uneven shudders. His hands and feet were a horrible blotchy purple and intermittently he coughed blood. Still, where a lesser man would have perished, he was alive and in our hands.

We pampered him with hot drinks and oxygen, and even a mouthful or two of food, and to our great joy the improvement was immediate. As I assured him that the worst was over I tried not to think of the steep rock and ice immediately below us.

Next day Ortenberger was able to continue his descent while we waited anxiously for more help and oxygen. On the 24th we heard with great relief that at 7 a.m. Romanes, using oxygen, had set out from Camp III with a large group of Sherpas, and that still more Sherpas were on their way from Camp IV. Accordingly we prepared Mulgrew for evacuation. By now the slightest movement was agony for him, so it was 10 o'clock before we had him on his feet, complete with crampons, oxygen and everything. Then, with West under one shoulder and me under the other, we staggered a few yards before collapsing in a heap, a manoeuvre that caused Mulgrew a great deal of suffering. We then removed the oxygen set and tried again, but with no better result. I knew full well that if we couldn't get him down the mountain that day, we never would, so in desperation I pleaded with him to allow me to piggy-back him. This offer he emphatically refused—which was just as well as I was not physically capable of carrying him more than a few yards.

By this time all but one of the tents had been struck and most of the Sherpas had arrived from below. Although we now had plenty of Sherpa power, none felt strong enough to carry him down the difficult section below. As the discussions went on the long-suffering Sherpas started to complain of the cold and generally things looked far from bright. At this stage West gave Mulgrew a shot of morphia and I decided to try something different. I collected mountain mule-pack frames from three protesting Sherpas and lashed them to 12 sections of Meade tent-poles to make a very rickety stretcher, which at first the Sherpas treated with the utmost

contempt. Meanwhile West slid Mulgrew (now quite unconscious) back into his sleeping-bag, and together we lashed him securely on to the stretcher-cum-sledge.

At about this stage we were thankful to see Romanes appear with the last of our 18 Sherpas, and with his help we attached a tangle of slings and ropes to the stretcher, and with great relief we got under way about 1.30 p.m. Had Mulgrew been conscious the journey would have been a nightmare both for him and for us. During that afternoon the fixed ropes were worth their weight in gold, while the already grossly overworked Sherpas laboured magnificently under most trying conditions. After several hours of back-breaking work we reached Camp IV, and despite the lateness of the hour we unanimously decided to push on while Mulgrew was still unconscious. Fortunately we made fast time down the steep couloir and across the diagonal ice traverse with the stretcher attached with karabiners to the fixed rope. Just as darkness fell we crossed the schrund and reached ground where the going was easier. By now I was feeling the strain, but from here the way was straightforward. At 8 p.m. we finally hobbled into Camp III, a very, very weary group.

The actual crisis was over, and the ' after battle ' feeling was very potent in the camp. Over the next few days the evacuation was completed and Mulgrew, Ward and Ang Temba were flown by helicopter to Kathmandu for urgent hospital treatment. The remainder were now a very battered party, most of us having touches of frostbite, and all of us feeling weak and very weary. We returned to the Mingbo Valley over the high-level route, our irrepressible Sherpa team still working with a will to the end. Like so many others before me, I learned what a wonderful people the Sherpas are. I shall always treasure the memory of them as in Makalu's howling wind they cheerfully risked their lives to save that of my friend Peter Mulgrew.

We were met by Hillary and Milledge who had come back via a long roundabout route to avoid excessive altitude. It was wonderful to see what a remarkable recovery the indomitable Hillary had made. We had all missed his infectious driving spirit on the mountain which had now twice repulsed him severely.

The acclimatization theories on which we had pinned our hopes had not worked out, but the scientists of the party felt that they had acquired the data they needed. In this way, as well as in the less tangible achievement of a fierce struggle on a great mountain, the attempt had proved well worth while.

THE AUSTRIAN KARAKORUM EXPEDITION, 1961

By ERICH WASCHAK

THE range of the Saltoro Kangri is an independent group of mountains south-east of the better-known seven and eight thousand metres high peaks of the Karakorum such as Chogolisa and the Hidden Peak.

In the north it is bordered by the Sia La, in the south by the Bilafond La and the Bilafond glacier, in the west by the Kondus glacier and in the east by the longest glacier of the Karakorum, the Siachen.

Six peaks more than 7,000 m. high crown this almost 50 km. long and 30 km. wide mountain-group:

Saltoro Kangri	...	7,742 m. (76° 53′, 35° 23′)
		7,706 m.
Mount Ghent	...	7,400 m.
Sherpi Kangri	...	7,303 m.
		7,380 m.
Mount Depak	...	7,150 m.

None of those peaks had been ascended before 1961. In 1934 an English group including Sir John Hunt tried to ascend the Saltoro Kangri; they were not successful, however. First Bullock-Workman in 1912, and later Shipton in 1957, carried out exploration in the immense area of the Siachen, particularly on the eastern side. As late as in 1960 the Alpine guide Senn, of Innsbruck, brought information on the till then absolutely unknown Kondus region that real opening-up work was to be done there still.

Application for permission to ascend the Saltoro Kangri was refused to our expedition by the Pakistani Government. As 'substitute aims' they assigned to us Sherpi Kangri, Mount Ghent and Peak K6, 7,280 m., appertaining to the Chogolisa range. The permission provided for our expedition to try to ascend those peaks from the main Kondus glacier or from its tributary glaciers.

The expedition left Vienna on March 28th, 1961, and arrived at Karachi on April 11th, 1961, by the *Victoria* of Lloyd Triestino.

The Austrian Ambassador in Pakistan, Dr. Fritz Kolb, had provided for us and prepared everything in a more than fatherly manner, so that two days later—after an interview with the Minister of Education of Pakistan and calls at the Ministry of Defence and at

the Ministry of Foreign Affairs, as well as at the Meteorological Institute—we could continue our travels to Rawalpindi. At Rawalpindi, the headquarters of the Army, our Liaison officer, Captain Aman Ullah Khan, joined us. The Joint Secretary of the Kashmir Ministry granted permission to the expedition to use the air line to Skardu and at the Army headquarters we had been given the possibility to purchase provisions for the porters.

It had been agreed with the Director of the Meteorological Institute that the Pakistani meteorologist, Mr. Rauf, should join our expedition at Skardu. Since Mr. Rauf had not arrived by the date fixed for our departure from Skardu—April 4th, 1961—we deposited his outfit with the Political Agent. Unfortunately the meteorologist did not join us later either, so that the measurements made in the base camp and in the high camps have been restricted to our own observations.

The approach march led up the Indus, Shyok and Kondus valleys in ten days. The stages were in particular:

Skardu–Gol	...	32 km.
Gol–Qwali	...	29 km.
Qwali–Kurpak	...	16 km.
Kurpak–Khapalu	...	22 km.
Khapalu–Huldi	...	19 km.
Huldi–Brakhor	...	22 km.
Brakhor–Karmading	...	22 km.

and two intermediate camps at the Kondus glacier to the base camp at the junction of the Sherpi glacier and the Kondus glacier.

The Political Agent in Skardu keeps records on high-altitude porters tried in earlier expeditions. He recommended us as chief of porters Ghulam Rasul, Sirdar, and Mohammed Hussein. Both men proved very efficient during the course of the expedition. Particularly Ghulam Rasul had sufficient experience, as he had been decisively put into action during the Pakistani-American expedition to Masherbrum in 1960.

By the good offices of the Political Agent we also were able to get 25 horses as pack-animals and had to hire in addition 12 porters only. From Khapalu up we employed altogether 73 porters.

The population of the valleys was rather friendly and after they had overcome their initial shyness people readily made use of the medicaments we were obliged by the Pakistani Government to make available to them. The number of patients varied in the individual villages between 30 and 50 on our approach, and between 50 and 80

on our march back. The medicaments not used, especially antibiotics, were left as a gift to the regional hospital of Skardu before we started for the return flight.

After arrival at the base camp on May 3rd, 1961, the porters were paid off and sent back. The following men remained at the base camp:

Captain Aman Ullah Khan, Liaison officer, Ghulam Rasul, Sirdar, high-altitude porter, Mohammed Hussein, high-altitude porter, Jamal Din, post messenger, Erich Waschak, leader of the expedition, Karl Ambichl, Wolfgang Axt, Raimund Heinzel, Ignaz Obermüller.

The post messenger Jamal Din took care of the contact with the last post office at Khapalu during the expedition. Six times he was on the way between the base camp and Khapalu.

The Meteorological Institute of Karachi had granted our application for a daily weather report. We had agreed with Radio Pakistan and with the Meteorological Station at Rawalpindi that a special weather report was broadcast every day.

The distance from the base camp to the depression under the western ridge of Mount Ghent where high-altitude camp 4 had been established was 34 km., of which 23 km. was on the Kondus glacier.

The first attack was made together with the escorting officer and the two high-altitude porters on May 7th, 1961. At the Army headquarters we had been requested in the presence of Capt. Aman to give him a chance to enlarge his alpine knowledge, acquired during a high-alpine training course for Pakistani army officers, by our experience and to put him into action on the mountain as far as possible. However, Capt. Aman gave up during the first attack for establishing camp 1 and later did not show any inclination to accompany us again to the further high-altitude camps.

Up to May 22nd, 1961, we succeeded in establishing four high-altitude camps. Persistent bad weather conditions, however, caused the members of the expedition to leave the camps three times and to return to the base camp. At the decisive fourth attack the youngest member of the expedition, Wolfgang Axt, succeeded in reaching the top of Mount Ghent on June 4th, 1961, climbing solo over the western ridge from high-altitude camp 4 as starting point.

The altitude of the different camps were:

Base camp 4,150 m., camp 1 4,500 m., camp 2 5,200 m., camp 3 6,000 m., camp 4 6,400 m.

Previously Wolfgang Axt and Raimund Heinzel also had succeeded in ascending for the second time the almost 7,000 m. high Silver Throne, ascended for the first time by Ernst Senn in 1960. They started from high-altitude camp 3.

Considering that the expedition had started for their proposed task in the Kondus region one month earlier than usual, the snowline was very low still. This was an advantage which allowed the use of our short skis. On the other hand, however, because of the long distance of the track to be laid afresh every time, our high-altitude porters could only reach camp 2 twice, otherwise as far as camp 1 only.

Accidents occurred during our ascents and descents: Two falls into crevasses, one fracture of ribs, one bruised chest, one snow-blindness, one beginning pneumonia. However, everything went well and no serious complications ensued.

On our march back we followed the same route as on the approach, the number of porters employed from the base camp was reduced to 33. The escorting Liaison officer, the high-altitude porters and all our other porters arrived at their starting points in perfect health. The members of the expedition safely returned to Vienna on August 24th, 1961.

Apart from the successful first ascent of Mount Ghent and the second ascent of the Silver Throne, the expedition also took home a collection of 60 plants and flowers from the Kondus region. This collection was handed over to Dozent Dr. Gilli of the Museum of Natural History of Vienna for elaboration. The measurements and meteorological observations were remitted to the Meteorological Institute of Karachi.

For any subsequent expeditions we may say that there is no possibility of ascending Sherpi Kangri with its two peaks—7,303 m. and 7,380 m.—or the K6, 7,280 m., from the region of the Kondus valley. The only possible access to Sherpi Kangri is the Khorkondus valley, branching off the route of this expedition in a north-eastern direction at Karmading. From our experience, however, we should say that for Sherpi Kangri as well as for the chief peak, Saltoro Kangri, the smoother slopes towards the Siachen in the east are promising for a successful ascent.

Our stay in Pakistan meant a valuable experience for all the members of the expedition. We met with a very kind reception both by the population and by the authorities of the country. Our impression was corroborated still by a congratulatory letter His Excellency the President of Pakistan addressed to us on the occasion of the successful ascent of Mount Ghent.

STORM ON MOUNT GHENT

The last slope to camp 4 is very steep. Every ten yards I rest gasping. I almost can't stay any more, because I am tired out by the enormous effort to reach camp 4. The heat is terrible, the soft snow sticks under my short skis and the heavy rucksack presses unmercifully my back. Finally I come to the lonely tent at a height of 6,400 m. It is 1 o'clock p.m. The tent is fallen by the storm of the last days and I have to work hard to re-erect it and clean it of the covering snow. I look back, but I can't see my comrades, Obermüller and Ambichl. I open a fruit-tin to take some refreshment. I rest while observing the long west ridge of Mount Ghent. From the camp 4 col there is to climb a difference of thousand metres to conquer the peak. I see two problems. At the beginning of the ridge a short steep rise of rocks and further up a zone of ice-cliffs. Perhaps one can evade them on the right side. In the meantime the sun has perished behind the wonderful chain of Gasherbrum. I get the last glimpse of the highest peaks sparkling in the red beams of the setting sun. It becomes biting cold. I retrace my steps for a certain distance to look for my comrades. Together we started early in the morning from camp 2 at about 2.30 a.m. Yesterday our leader had brought up from base camp the newest weather forecast of the Pakistan meteorological department. This bulletin had foretold two fair days and then the beginning of the monsoon. Waschak and Heinzel didn't feel well. So they had to descend to base camp. To succeed in conquering the peak we other three left should ascend the next day from camp 2 to camp 4, a difference of 14 km.! In the following terminal clear day the two best should try the final assault. It seems now that my comrades remain at camp 3 for the night. The snow conditions were really very bad, soft deep snow and an unbearable heat.

What shall I do tomorrow, June 4th, 1961, probably the last fair day ? I am alone and I know that the success of our group depends on me only now. I consider what to do. It is a dangerous venture to climb the ridge alone. Finally I am determined to go. I hide into my tent, prepare some food on my cooker and pack the rucksack for the decisive attempt. I sleep very badly. Thoughts bother me: 'What brings the next day, victory or defeat ? ' I can't sleep any longer. Already at 2 o'clock I get up. To put on the heavy boots and the special equipment in the tiny tent needs patience. I look out of the slit of the tent to judge the weather. It is very cold, but millions of stars sparkle clearly in the sky and the full moon spreads her mild light all over the snowy mountains. At 2.30 I start

for my bold attempt. The first part of the ridge consists of grey slate. The climbing is adventurous in the gloomy light. Above the rocky part I experience a wonderful sunrise. I have an extraordinary good view and I can see almost all high peaks of the Karakorum range as the first sunbeams gild them. The ridge becomes steeper and the snow and ice are in bad condition, sometimes powder snow, sometimes breaking ice. At 9 o'clock I come to the key of the whole ascent, the zone of ice-cliffs, and almost invincible obstacle of vertical ice-walls. I am lucky to find a steep couloir that leads directly up to the upper plain ridge, but it is filled with groundless powder snow. I struggle hard to gain height but I am exhausted. Lack of oxygen, the heavy rucksack and the troublesome tracing needs all my endurance. With the last energy I reach the upper level part of the ridge. I fall in the snow to rest. I guess that I have not more than 300 m. to the top. This idea gives me new strength. My will drives me forward. In the west I perceive thick clouds flowing eastwards. A wind begins to blow, all a sign for the beginning monsoon. I climb higher while the storm becomes stronger and drives ice needles from the lower slopes over the ridge. They hurt my face and I almost can't see anything. At 12.30 p.m. I reach the highest point, 7,400 m. I am the first human being on this lonely point. I am happy and satisfied that I reached the summit of Mount Ghent. I bind the flags of Austria and Pakistan to my ice-axe and push it into the snow. Under these inhospitable conditions I need all my energy and will to take my camera out of the rucksack to photograph the summit and the flags as a proof of my conquering the peak. A last look round shows me a sea of snowy mountains. The wonderful pyramid of K2, the second highest peak of the world, impresses me most. But Broad Peak, Hidden Peak and Nanga Parbat are wonderful mountains too, striking my eyes. The clouds approach very quickly from the west. They fill the valleys and only the highest mountains look out of it like islands. Now it is time to descend. I can't feel my fingers. I fear frost-bite. I move back, back to camp 4, back to my waiting comrades. The clouds mount higher and surround Mount Ghent and also the west ridge including me. It begins to snow. The storm blows incessantly. I can see almost nothing except a few signs of my track. After my triumph over Mount Ghent I relax. I feel very bad and exhausted, so that I stagger down and sink every moment into the snow to rest. My ski-sticks are an important help as a support. I cannot distinguish between reality and appearance. I imagine a blue sea, green palms and a wonderful beach. I know that these thoughts contain a deadly peril. If I give them way, I begin to sleep and I freeze to death. I continue the

descent slowly. At about 4.30 p.m. the clouds diminish and I make out camp 4 close by and near the lonely tent two figures waving with their arms. I move down, I don't know how, and I reach my comrades at about 5 p.m. They congratulate and refresh me with delicious Ovomaltine. I hear they observed my whole ascent. At twilight I go down with the skis to camp 3 accompanied by my friend Ambichl. I lie down while Ambichl prepares a substantial soup. After eating it, a look out of the tent shows for the last time some of the highest peaks. I wish them a hearty good-bye. Then the clouds increase again and it begins to snow. While I fall asleep, I hear the monsoon storm singing in the strings of the tent.

WOLFGANG AXT

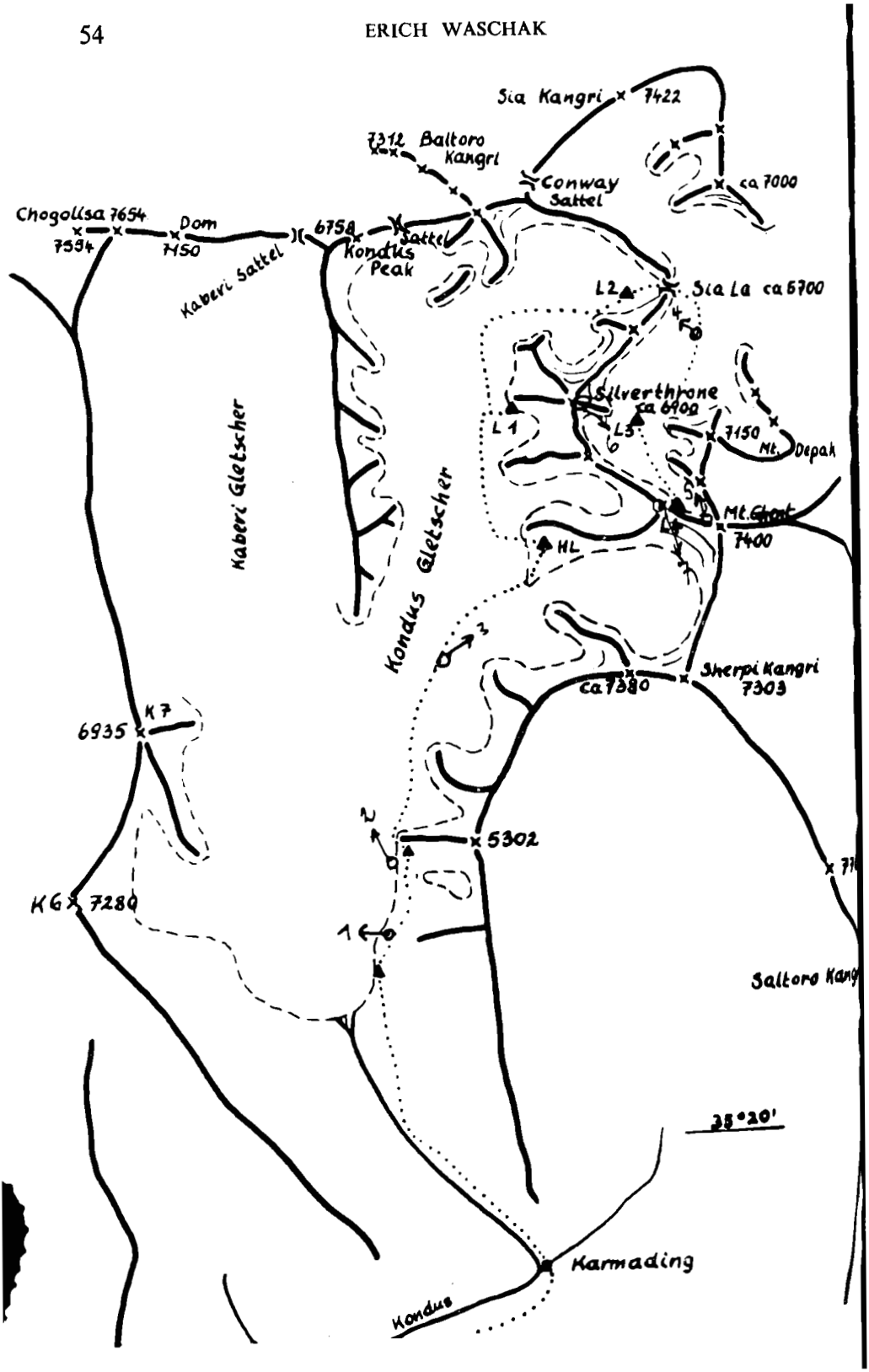
NOTE ON THE MOUNTAINS OF THE KONDUS GROUP

[The Editor takes no responsibility for the views expressed in this note. The topographical information it contains is based upon observations made by the author.]

During our preparations, we used the map 'Karakoram 1:750,000' drawn by Marcel Kurz and published by the Swiss Foundation for Alpine Research. We also made use of a sketch-map which Ernst Senn, the well-known Tirolean climber, made available to us.

On M. Kurz's map, Mount Ghent is situated east of the Saltoro massif, which made us suppose that this peak belongs to the Siachen group. It seemed necessary therefore to select our ascent route over the Kondus Glacier and via the Sia La, a distance of 37 km. from our base camp. It was only at camp 4, 6,400 m., during the course of our climb that we discovered that Mount Ghent actually belongs to the Saltoro group and forms a corner pillar of the Siachen.

To describe the peaks and ridges starting from Sia Kangri, 7,422 m.: An ice-fall leads south-east towards the Conway Saddle, from where a rock ridge leads south-east to the Sia La, *c.* 5,700 m. A semicircular ridge containing four peaks leads to Mount Ghent. The westernmost point is the Silver Throne, *c.* 6,900 m., first climbed by Ernst Senn, a member of the 1960 International Kondus Expedition. From a saddle, *c.* 6,400 m., where our camp 4 was situated, the north-western ridge composed of rock and ice rises towards the summit of Mount Ghent. This was the route that Axt chose for his climb. From here an ice ridge falling southwards to about 5,900 m. from which rises a number of rock towers leads in turn to a serrated rock ridge culminating in Sherpi Kangri, 7,303 m.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7312 Baltoro Kangri
Conway Sattel
ca 7000
Chogolisa 7654
7594
Dom
7450
6758
Sattel
Kondus Peak
Kaberi Sattel
L2
Sia La ca 6700
Silverthrone ca 6902
L1
L3
7150
Mt. Depak
Mt. Ghent
7400
HL
Kaberi Gletscher
Kondus Gletscher
Sherpi Kangri 7303
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6935
K7
5302
KG
7280
Baltoro Kang
35°20'
Karmading
Kondus

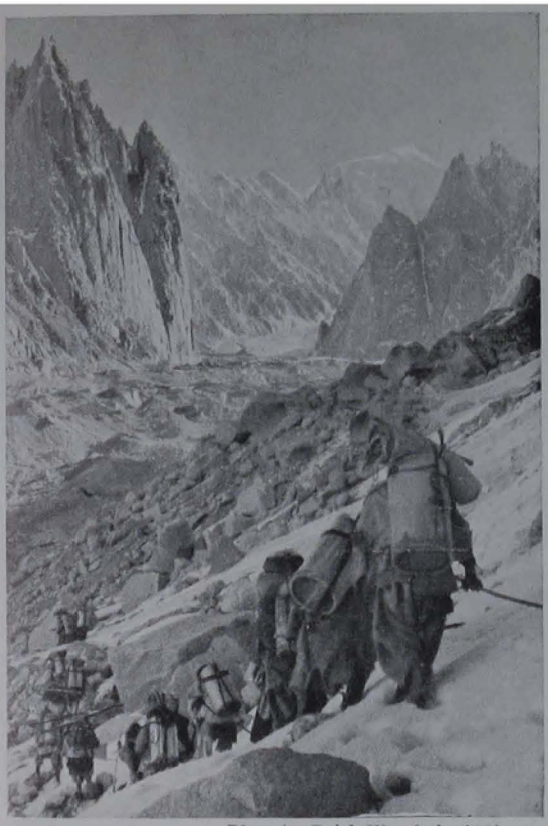


Photo by Erich Waschak of Vienna

VIEW OF KONDUS GLACIER. IN THE BACKGROUND CAN BE SEEN MOUNT GHENT RISING ABOVE THE SHERPI GLACIER

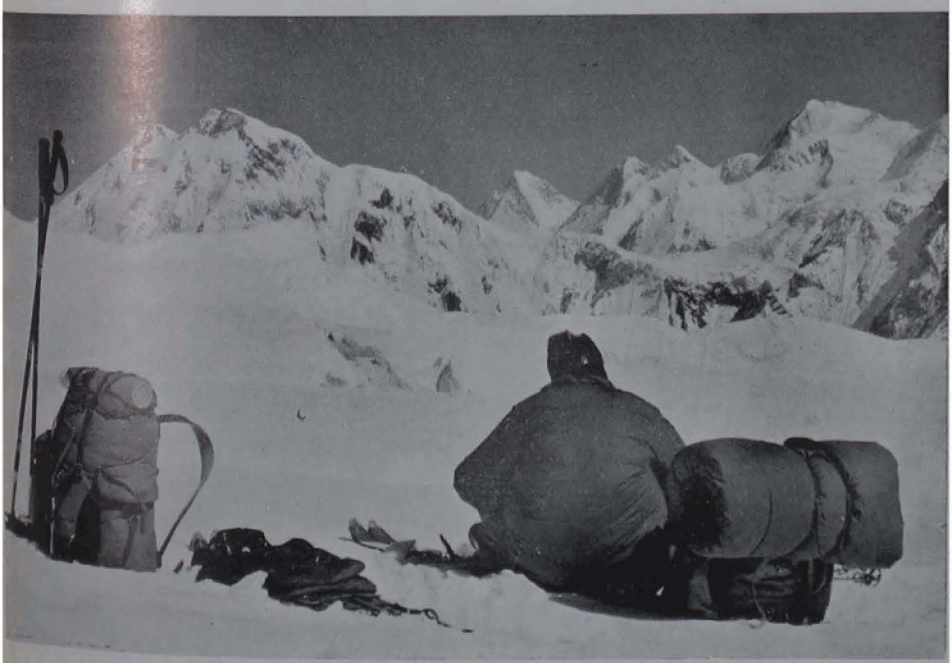


Photo by Ambichl

VIEW FROM THE VICINITY OF HIGH CAMP 3 ABOVE THE SIA LA. IN THE BACKGROUND FROM LEFT TO RIGHT—BALTORA KANGRI (THIS IS THE DOUBLE-HEADED SUMMIT IMMEDIATELY TO THE RIGHT OF THE SKI POLES—AJK*), BROAD PEAK (HARDLY VISIBLE BEHIND GASHERBRUM 4—AJK), GASHERBRUM 4 (THIS IS THE PYRAMIDAL SUMMIT IN THE CENTRE BACKGROUND IMMEDIATELY ABOVE AND SLIGHTLY TO THE LEFT OF THE HEAD OF THE SEATED PERSON IN THE PHOTOGRAPH—AJK), GASHERBRUM 3, GASHERBRUM 2, AND HIDDEN PEAK

* AJK = Andrew J. Kauffman

Photo by Axt

THE SUMMIT MASS AND WEST RIDGE OF MOUNT GHENT AS SEEN FROM THE SILVER THRONE. IN THE HOLLOW AT FARTHEST POINT (KARL) IS THE SITE OF CAMP 4. ABOVE THIS CAN BE SEEN THE EAST PEAK OF SHERPI KANGRI (7,303 METRES)

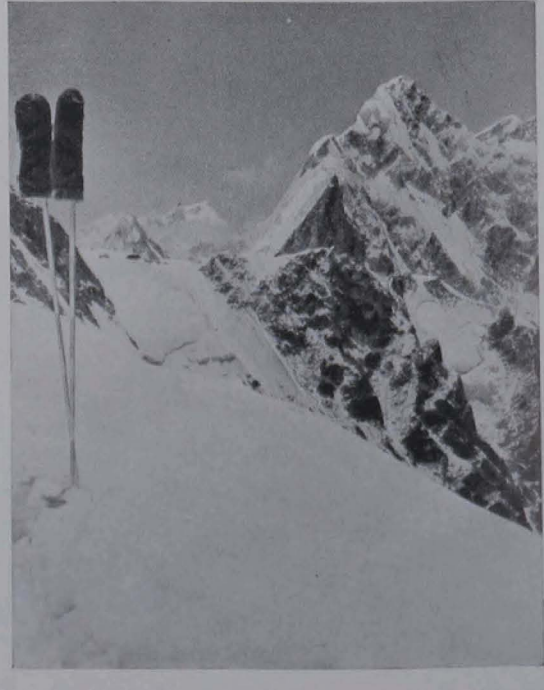


Photo by Karl Ambichl of Hieflau

VIEW OF K6 FROM THE EAST AS SEEN FROM TEMPORARY CAMP 2 ON THE KONDUS GLACIER

From Sherpi Kangri two separate branches appear—one forms a sharp rocky ridge leading in a south-easterly direction towards Saltoro Kangri, 7,742 m., the other running in a westerly direction turns southwards via Point 5,302 m. and terminates in the mighty granite pillar of Karmading. The peak in the westernmost corner, about 2½ km. distant from Sherpi Kangri, I would say was about 7,380 m.; making this peak about 77 m. higher than Sherpi Kangri as shown on M. Kurz's map. I made these observations from camp 4, where the westernmost peak appeared to be undoubtedly the highest; and this was borne out subsequently by photos.

Between Mount Ghent and the Siachen Glacier to the north and east, lie a conglomeration of mountains. A ridge leads north to the north peak of Mount Ghent, *c.* 7,350 m., and continues to Mount Depak, 7,150 m. From Mount Depak, first climbed by Ernst Senn and Michel Anderl on August 13th, 1960, a chain of peaks leads eastwards, falling in a sweep towards the Siachen Glacier.

According to M. Kurz's map, the Kondus Glacier appears to be fed by the Sia La. It also appears to be fed on the one hand by the 2,000 m. high and 45-degree steep ice-fall from the Silver Throne; and on the other hand by the ice-fall from Baltoro Siachen Glacier; and also, with its 2,500 m. high face to the south, forms a mighty glacier bowl out of which rise with incredible steepness Sherpi Kangri and Point 7,380 m.

I. OBERMÜLLER

BACK TO THE BARA SHIGRI

By J. P. O'F. LYNAM

IN 1958 we had gone to Spiti and worked our way south over the ridges to the head of the Bara Shigri Glacier (*H.J.*, Vol. XXI). On that occasion we had been more interested in exploration and survey, and had had no time to do more than admire the peaks around the head of the valley before turning down towards the Chandra again. We determined to return, and in particular to climb the big peak at the head of the Bara Shigri which Peter Holmes measured as 22,500 feet but which we more soberly estimated at 21,800 feet.

In 1961 I returned with Stephenson (leader of the 1958 trip) and two others, Peter Harvey and Harold Mellor. Our original intention had been to explore from the Bara Shigri into the Parahio, and back to the Parbati, thus clearing up the last blank on the map of this area. However, permission to cross the Inner Line could not be obtained and this part of the programme had to be abandoned.

The rest of the party gaily assumed that since I was in India, it would be very easy for me to make all the preliminary arrangements. They overlooked the fact that I was 1,300 miles from Kulu, and not in a position to visit even Calcutta. However, food, boxes, and equipment were somehow arranged, and reached Manali in time. The others drove out from England in my Hillman Estate car and reached Manali on August 7th after a 19-day trip. As porters we had two of the best and most experienced men at Manali, Jigme (who had been with us in 1958) and Wangyal. We also had Sonam (who had been with Holmes) and Sonam Wangchuk, another of our 1958 porters. As one pony-man we were fortunate to get Rigzen, Holmes's best porter. We set off on August 8th ; the monsoon was in full blast, but as in 1958 we expected to find fine weather as soon as we had crossed the Rohtang Pass into Lahul. This time we were less lucky and rain and cloud followed us for two more days up the Chandra.

In six days from Manali, in spite of some trouble with our second pony-man, we reached the foot of the Bara Shigri, where we paid off the ponies and made our Base Camp. Rigzen remained with three ponies to look after the Base, and he also helped us by load-carrying as far as the first camp up the glacier. The lower part of the glacier is a tangled mess of moraine heaps, which seemed even worse than in 1958, and relaying our kit up it we averaged not more than half

a mile per hour. It took us five days, including relay trips, to set up our camp in the middle of Concordia, 12 miles from the glacier snout.

At this stage I was more or less incapacitated by blisters on my feet and I had to spend the next few days hobbling around Concordia, playing the part of non-climbing leader. The others were despatched up to suitable survey stations from which they duly photographed or plane-tabled, but as I was the only one thoroughly familiar with the known landmarks of the area, the survey suffered. Neither Peter nor Harold were very fit, so after two days Gwynn and Wangyal went off to the head of the south-east branch of the Bara Shigri, to take a look at least into the forbidden Parahio.

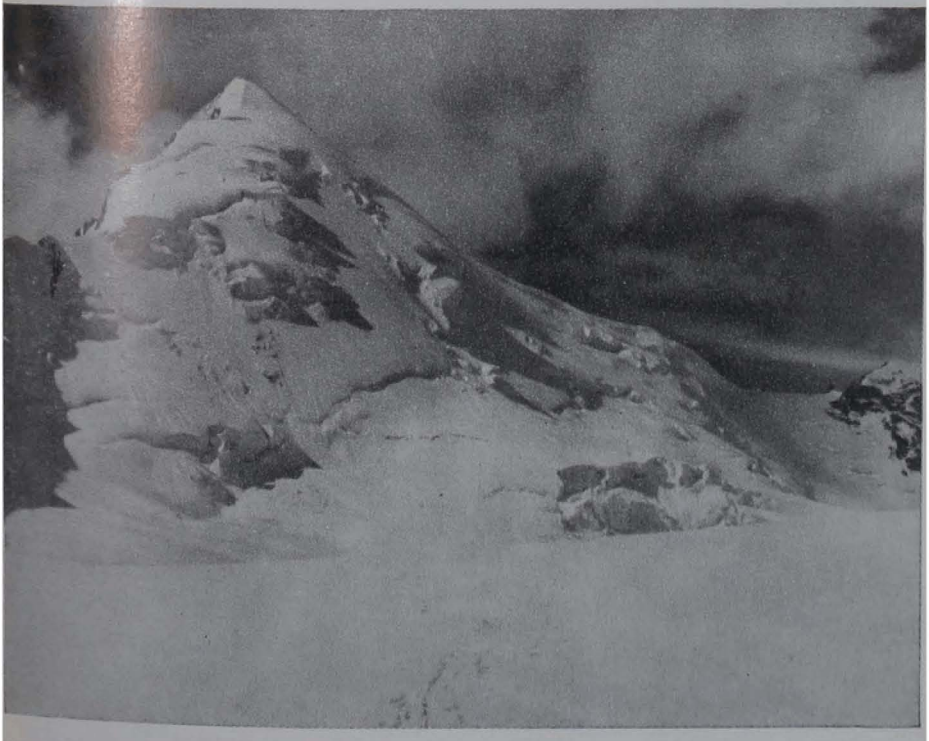
On August 22nd the rest of us were sufficiently recovered and set out for the south wall of the Bara Shigri where we hoped to climb the very fine 19,600-foot rock peak just west of Gunther's Ice Pass. We camped at the pass which leads to the Tichu Nal and Jigme was able to point out the pass from the Tos Nal to the Tichu which he had reached earlier in the season with Pettigrew. One small cartographical query was thus answered. That night it snowed heavily, plastering the rocks, and we had to wait for a day until it melted. From our camp we traversed a snow slope, crossed a bergschrund and climbed diagonally across small avalanche grooves to reach the rocks below the NE. ridge. Jigme and I climbed on one rope, Harold and Peter on the other. The rock was loose and interspersed with snow, but became steeper and sounder as we neared the ridge. When we reached the ridge we found ourselves immediately faced with a vertical step, but this could be avoided by a through route on the left. A second step now barred the way, but Harold managed to climb it, using three pitons to reach a little cave on the left. From this it was possible to traverse some slabs and regain the ridge. We paused; it was now after 11 a.m. and innumerable rock steps rose above us; I was keen to get a survey station, and it was obvious that even if we got to the top there would be no time for one. So Jigme and I stopped and set up the plane table (height 19,100 feet) while the others continued. Eventually they also turned back as we had no food and so wanted to get back to Concordia that night. It was certainly impossible to reach the summit and return to Concordia, and it appeared hardly possible to reach it and return without a bivouac. In retrospect, I find to my regret that a good survey station weighs very lightly compared with a missed ascent. We retreated, rappelling where necessary, and reached Concordia to find Gwynn had returned and was impatient for action.

Next day we all moved up the north-east branch of the glacier which leads to Peak 21,800 feet. For some reason the porters went badly on this stage and it took us two days to follow the sweep of the glacier first north, then east, and south up to its source below the NW. face of Peak 21,800 feet.

We camped below the face at about 2 p.m. Above us ice-walls and seracs rose into thick cloud. In the evening the clouds lifted and we watched the peak being slowly unveiled. High up the west snow ridge was climbable, but how to reach it ? Direct ascent to the col at the head of the glacier would involve a climb up steep fluted ice, well spattered with fragments from an overhanging cornice. We looked at the north-west face, pure snow and ice, and traced among the ice-walls and between the crevasses a route which threaded its way upwards and to the right until it seemed possible to break out on to the west ridge at the only point where the cornice relented. The ridge looked easy for as far as we could see it, but some rock showed high up and the clouds still hid the last 500 feet.

The next morning Harold was unwell with dysentery which had been dogging him for some days. Gwynn, Peter, Wangyal and myself, carrying a small tent and equipment for two to spend the night higher up, left camp at 8.45 a.m. We crossed the glacier and attacked the face. Everywhere the route we had planned was possible. Steps had to be cut, small bergschrunds crossed, and though our progress seemed funereal compared with the size of the face we gradually gained height. We were in shadow all the time and Gwynn and Peter suffered from frozen feet, so that we had to stop to take off their boots and massage them. Two hundred feet below the ridge I stumbled on to a small level patch of snow under an ice-wall with just room for our tent, height about 19,700 feet—nearly half-way to the top. We left Wangyal to put up the tent, and pushed on towards the ridge with Gwynn leading—along a shelf ; across a dying crevasse ; up a boss, left and up a steep wall gradually easing to a slope below the cornice. Then diagonally left to where the cornice only projected a foot or two, and so on to the ridge. It was 3 p.m. The ridge ahead looked climbable, but the top was still in cloud. The wind was bitterly cold and we hurried back to the camp. Wangyal had brewed tea and while we drank we discussed who would stay up. Everybody was prepared to be self-sacrificing, but obviously nobody really wanted to go down. Eventually it was decided that Peter and I should stay up, but we also agreed that if the upper part of the mountain offered no rock difficulties, and if the route was prepared, it would be possible to climb it direct from the glacier. So Gwynn and Wangyal would try this.

LOOKING ACROSS SOUTH-EAST BRANCH OF THE BARA SHIGRI FROM PEAK 19,400 FT. PEAK 21,760 FT. IS ON THE RIGHT



SHIGRI PARBAT, 21,800 FT., FROM NORTH-WEST. THE ROUTE WENT DIAGONALLY TO THE RIGHT ACROSS THE FACE ON TO THE SKYLINE RIDGE

The others went down, and as the sun set we turned to the tent to prepare supper. No matches; Gwynn had taken the last box. We deliberated for some time before deciding to stick it out. Lack of hot food was not so bad as lack of any sort of liquid at all. We gloomily munched bully beef, jam and biscuits and settled into our bags for a miserable night.

We woke up (or more correctly ceased trying to sleep) at 5.30 a.m. and looked out on a creakingly cold but beautiful sunrise. We ate jam and biscuits and prepared to move. Everything was iron-hard, even our boots which we had taken into our tent (though not into our sleeping-bags). We spent a full hour fighting our way into boots, buckling on frozen crampons, and untangling the frozen rope.

We left at 0700, just as two dots moved out from the glacier camp below. We climbed quickly up the track to the ridge, repeating in half an hour the two hours' task of yesterday. Once there, we hoped to get into the sun, but it was blocked by the north ridge. Nevertheless we halted, to take off Peter's boots and massage his feet which were already dead. I was worried about my feet also, but as I rubbed Peter's, I worked my own toes in my boots until I could feel reassuring pins and needles.

We decided Peter had better not wear his crampons, which left the leading to me. The ridge was quite broad but steep, with snow lying insecurely on ice. Each step had to be kicked or cut, and the effort seemed appalling. I would move up four steps and collapse on my axe, take another four or five steps and again halt to pant wildly. Gradually we drew near some rocks which promised warmth and a change from step-cutting. But they were snow-dusted and smooth and we lost more time in climbing them carefully. Once we reached the top of the rock the slope eased, and looking back we saw the others following us up the ridge. We shouted to them to avoid the rocks by steep snow on the left. By now we were completely dehydrated and each step was an effort. We plodded up the easy slope to the apparent summit, and found that there was still a rocky ridge to be traversed. We crawled along this rather than climbed, moving singly simply because this gave us more opportunity to rest. At last the ridge fell away and we were there. It was 11.30 a.m. and we flopped on to the rock and tried desperately to assuage our thirst with fruit drops. After a long battle with my conscience I summoned up the energy to get the tripod out and take a round of survey photographs. Not that they were much use; there was too much cloud around. It was neither possible to recognize the Gyundi peaks which we had climbed in 1958 nor to sort out the tangled ridges between the Parahio and the Parbati. Gwynn

and Wangyal arrived, after forty-five minutes, having made extremely fast time.

We started down at 12.35 p.m. and all roped together for the descent of the ridge. The steps had softened and could not be trusted, and we moved very carefully. Wangyal was obviously wondering what the fuss was about, but as a slip would certainly have taken us down the NW. face quicker than we wanted, we firmly discouraged him from glissading. Once off the ridge we were out of the sun and on to hard snow, and we reached the Assault Camp at 3 p.m.

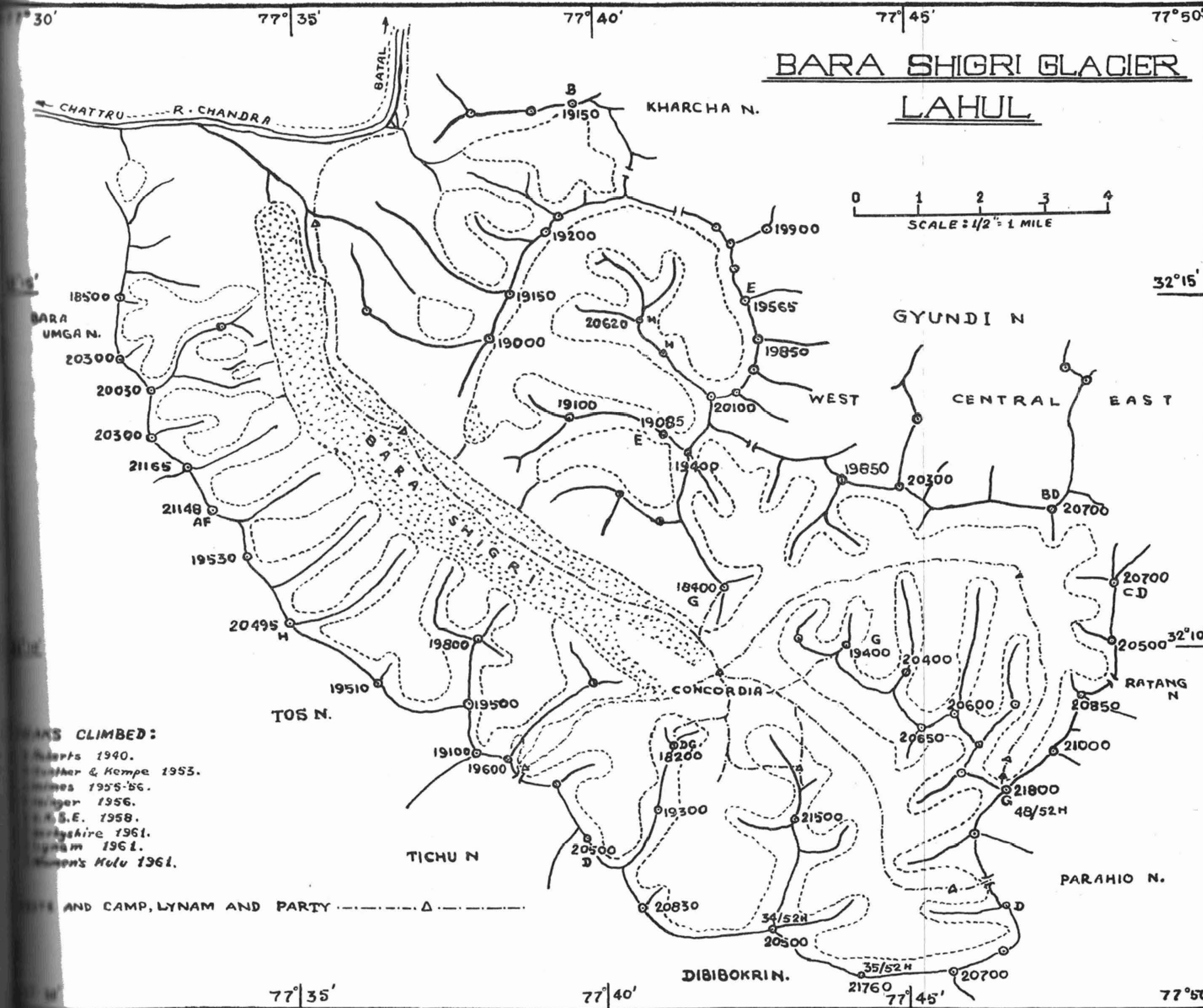
Wangyal brewed first tea and then oxo, and Peter and I slowly rehydrated while Gwynn scrambled around with four cameras draped from him taking photographs. The camp-site was in fact quite spectacular.

At 1700 we dragged ourselves to our feet and went down to the glacier camp, where we were welcomed with cheers and handshakes in the approved fashion.

That night I discovered my left big toe was dead, and in spite of rubbing it for hours, by morning it was purple and swollen. Gwynn's doctor had given him some notes on how to treat common disease, but there was nothing about frost-bite; Peter's first aid book was also silent. Despatching Harold and Jigme up the peak we decided that I had better go back at least to Concordia. My boot would not fit over the swelling, so my foot was wrapped up in duvet hoods and scarves and shoved into my leather-bottomed rucksack. At first I slipped and slid but soon acquired a technique of heaving the monstrous boot along by the rucksack straps. We unroped below the crevasses and let the porters go on. But now my foot had got wet and I was afraid of it freezing, so I hurried on, swinging the boot wildly along. There was a maze of open crevasses just above Concordia, but I was past caring by then and flung myself across them. Gwynn and Peter followed more decorously, concluding that there could not be much wrong with me. At camp I inspected the damage; the swelling had burst and though the whole toe was still yellow and purple it looked a lot healthier.

That was more or less the end of the trip. I had to go down anyway, and Peter came with me. Gwynn and Harold tried a lovely 21,500-foot peak above Concordia, but Harold's dysentery returned and they had to give up. We reached Manali without incident on September 6th.

The survey produced some alterations and some added details to the Bara Shigri map. The map in *Himalayan Journal*, Vol. XXI. was produced in a hurry before I had time to fully plot the survey.



BARA SHIGRI GLACIER
LAHUL
SCALE : 1/2" = 1 MILE
0 1 2 3 4
77° 35'
77° 40'
77° 45'
77° 50'
32° 15'
32° 10'
BATAL
CHATTRU
R. CHANDRA
KHARCHA N.
GYUNDI N
WEST
CENTRAL
EAST
BARA UMGA N.
TOS N.
TICHU N
PARAHIO N.
RATANG N
DIBIBOKRI N.
BARA SHIGRI
CONCORDIA
B 19150
19200
19900
19150
E 19565
20620
19850
19000
20100
19100
19085 E
19400
19850
20300
BD 20700
18500
20300
20030
20300
21165
21148 AF
19530
20495 H
18400 G
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21760
35/52H
20700
CLIMBED:
1940.
& Kempe 1953.
1955-56.
1956.
S.E. 1958.
1961.
1961.
Kulu 1961.
AND CAMP, LYNAM AND PARTY

I merely distorted Holmes's map to fit in our new discoveries. The final map was printed in the *Geographical Journal*, Vol. 126, Part 4, December 1960, and differed mostly in having more detail in the Bara Shigri and some altered heights. The big peak which we climbed has to have a name—referring to it by height is impossible. It is S. of I 21,410, Holmes 22,500, Lynam 21,800 (in *H.J.*) and 21,710 (in *G.J.*). From not very satisfactory observations this year it appears at least 21,800 feet, though there may be some personal bias now in raising it above Peak 21,760. It is possible that the 21,710 feet figure actually represents the lower northern end of the summit ridge, which alone was visible from our stations to the north in 1958. So I have retained the height of 21,800 feet which is certainly correct within one hundred feet, and I am firmly calling the peak Shigri Parbat. (During the trip we called it Moby Dick).

I have also incorporated in the map the plane-table survey of Miss Scarr and Miss Spark around ' Central Peak ', 20,620 feet, and their sketched amendments around Peak 20,495 feet.

There are some adjustments to be made to heights shown in my 1958 article. Peak 20,341 feet (Holmes's Peak) has become 20,413 feet, Fluted Peak has become 20,135 feet, Gunther's Peak has gone down to 20,700 feet.

WOMEN'S KULU EXPEDITION, 1961

By JOSEPHINE SCARR

'ARE there any peaks in the Himalayas suitable for two girls without any Himalayan experience to tackle alone?' This was the question that we tentatively put to John Jackson, warden of a mountaineering school in North Wales and a member of several Himalayan expeditions. We expected a severely discouraging reply, but to our surprise John was most enthusiastic, and from that moment became the main adviser, supporter, and eventually the patron of our Expedition.

Although we were styled an 'Expedition', our aims were modest—to see something of the Himalayas and to try to climb an unclimbed peak. It did not matter if it was only a very small one, but after several years treading the well-worn peaks of Britain and the Alps, we longed to go somewhere where no one had ever been before.

On the advice of Dr. A. E. Gunther of the Alpine Club and Miss Eileen Gregory and Mrs. Eve Sims, members of two earlier women's expeditions, we decided to make our objective the Bara Shigri Glacier in the Kulu area. Access to it is both easy, quick, and reasonably cheap, for in six days a pony train can trek from Manali to the foot of the glacier. It is also not too far from help in the event of an accident, an important factor for a small party without a doctor. And, above all, much of the area is still unexplored, and contains many unclimbed peaks of up to 21,000 feet.

Once our objective was decided preparations really began, and for six months we collected equipment, food, documents and injections. Like most small expeditions we were on a very tight budget, but by making much of our equipment such as sleeping-bags and mountain clothing we managed to keep costs to the minimum, and were fortunate to receive very generous support from British firms and also a grant from the Mount Everest Foundation.

Borrowing the money to buy a second-hand Land Rover, we set off to drive to India at the end of July, 1961. The 7,000-mile journey took us six weeks, taking time off *en route* to stretch our legs on Mount Olympus, 9,570 feet above our camp on the shores of the Mediterranean.

After a three-day delay through floods in Pakistan we finally reached Manali on September 12th, and left three days later, accompanied by three Ladakhi porters, Jigmet, Wangyal and Antchuk, whom Major Banon had very kindly engaged for us. They had all been on several previous expeditions, and had just returned from accompanying Lynam's party to the Shigri area. Also with us came Rigzin, who has now given up climbing in favour of the more lucrative job of gorahwallah. He and a Tibetan were in charge of the six ponies and donkeys that we had hired to carry our equipment and food supplies for five weeks.

Our route lay over the 13,050-foot Rhotang Pass, across the Chandra river by the bridge at Chattru and along the north bank to Batal, where we re-crossed the river by the new bridge and returned on the south bank to Shigri, and placed our Base Camp at the foot of the glacier. It was an enjoyable six days' trek, but on the way I unfortunately developed a tooth abscess, and in spite of penicillin treatment by the time that we reached Base Camp one side of my face was so swollen that I could hardly speak, eat or blow my nose. More penicillin, but next morning it was no better, and, consulting the medical section of *Hints to Travellers* (that invaluable Royal Geographical Society publication), we came to the conclusion that I had an apical tooth abscess, for which the treatment appeared to be extraction or lancing, or both ! Barbara was reluctant to experiment as dental surgeon, so we decided that I would have to return thirty miles to Chattru, where fortunately an Indian doctor was temporarily stationed, looking after the Tibetans there.

Taking Antchuk with me, I set off in company with the ponies and donkeys returning to Manali. This time we went along the south bank of the river, a very rough path which the ponies found difficult, even though unladen. My recollections of the journey are rather hazy, but I remember crossing four fast-flowing nullahs, clinging precariously on to a pony as it stumbled across, saddle-deep. After twelve hours and twenty-five miles of huge boulders and steep scree, followed by a forced bivouac on the banks of the last raging nullah, we reached Chattru and the joy of hot tea and spaghetti in a Tibetan 'hotel'.

Here I said good-bye to Rigzin, arranging for him to come back to Base Camp with three ponies to collect us on October 11th. Then up to the tiny Rest House, where I found the young Indian doctor deep in *The Return of the Native*. He was so delighted to have someone to talk to that it was nearly two hours before I could coax him away from discussing Hardy and the whole of English

literature to the more immediate problem of my abscess. It was gratifying to find our diagnosis was correct, but luckily extraction was not necessary, and after only ten minutes' treatment I emerged cured.

Returning via Batal, Antchuk and I got back to Base Camp at 10 a.m. next day, very weary and hungry. Barbara revived us with a magnificent lunch, and told us of her two days' load-carrying up the glacier with Jigmet and Wangyal. They had done another carry the third day, with the result that all five of us were able to move up the following day to the first camp, always known as Lynam's camp, as we used his old camp-site. After several hours of jumping from one wobbly gravel-covered boulder to another, I decided that my abscess had been a blessing after all !

The next day we again moved up, the porters carrying about fifty pounds and us about thirty, and established our Advanced Base Camp at 15,000 feet on the glacier. That afternoon, whilst the porters went down for more loads, Barbara and I set off to explore the tributary glacier above our camp, which we hoped would lead to our objective, Central Peak. We had chosen this 20,600-foot peak mainly on the advice of Dr. Gunther, who in 1953 had approached and photographed it from the north side. He proclaimed it the finest unclimbed peak in the area, and as it also lay at the head of an unexplored glacier, we felt it would make a very worth-while objective for our Expedition.

Up and up the moraine we climbed in thick mist, following a stream that we hoped came from the glacier snout. After two hours we had almost given up hope of ever finding the glacier when suddenly we glimpsed a wall of ice ahead. At the same moment the mist cleared, and we had a brief view of rocky buttresses rising steeply upwards in the right direction for Central Peak. It was a most exciting moment, especially when we consulted our altimeters and discovered we were at 16,000 feet, higher than we had ever been before.

Returning to camp, we decided that it looked sufficiently promising to risk moving a camp up next day, and accordingly by the following afternoon we had established a camp at 16,500 feet, at the foot of one of the ridges of what we hoped was Central Peak. The topography certainly seemed to fit in with our map, but we were not absolutely certain until the following morning, when, on a further reconnaissance, we rounded a spur and saw before us a huge rocky spire, immediately recognizable from Dr. Gunther's photographs as Central Peak. To its south stood Lion, a beautiful snow dome, also unclimbed, and looking considerably more

feasible than Central Peak.

As we made our way back to camp (christened Tanda Camp after our first night there) we saw in the distance Wangyal, Jigmet, and Antchuk plodding up the glacier under the most enormous loads. Through this wonderful effort we were all able to move up again the next day, and place a camp at 18,000 feet in the wide snow basin below Central Peak and Lion. Until now the route had been straightforward, if wearisome, plodding up moraine and soft snow, but at the head of the glacier was an intricately crevassed ice-fall, up which we zigzagged for hours, crossing some very dubious snow bridges. It was a great relief when in the late afternoon we reached the huge snow basin above the ice-fall, and set up our tent. A quick cup of tea, and the porters went down to Tanda Camp again, whilst Barbara and I spent our first night at 18,000 feet.

Before we settled down to the lengthy business of cooking supper, we decided that next day we would reconnoitre the impressive 19,850-foot rock peak rising to the east of our camp. It looked steep, but possible, and after five days' continuous glacier work, we were impatient to begin climbing. Unfortunately next morning we woke late, and felt so lethargic with the unaccustomed altitude that it took us two hours to cook breakfast.

We finally set off at 9.30, and an hour later reached the bergschrund a mile away, feeling very tired and panting with every step. The bergschrund proved awkward to cross, and above it was a steep ice-slope that we estimated to be one rope length, but which turned out to be more than four, so deceptive are distances to new-comers in the Himalayas. Fortunately we were able to crampon up the ice, but we were so unacclimatized that progress was very slow. At last we reached the rock, only to find it a rotten mass of snow-covered blocks, which seemed ready to slide down to the glacier below at any moment. Gingerly we made our way upwards, and after two hours reached the col about 500 feet below the summit. It was too late now to go any further, but our climb was rewarded by a magnificent view down into the W. Gyundi Glacier, and in the other direction of Central Peak and Lion. After a brief lunch we descended by the same route, and were relieved to reach the glacier safely after rather hair-raising cramponing down the steep ice-slope with the bergschrund gaping below. When we got back to camp we found Wangyal, Jigmet, and Antchuk there, with hot tea and chappattis ready for us. They had clearly been rather anxious about us, and we were welcomed back like long-lost daughters.

As we drank our tea we peered out at the surrounding peaks and discussed plans for the morrow. Jigmet and Wangyal kept pointing at Lion, and, although we felt we were not yet sufficiently acclimatized to attempt a 20,000-foot peak, we decided that there would be no harm in reconnoitring the lower slopes the next day.

At 7 a.m. the four of us set off, leaving Antchuk to have a good rest, as he preferred not to climb if he could avoid it. The snow was crisp, and we made fast progress up the easy-angled East face, until we came to a steep ice-slope intersected by enormous crevasses. Luckily we managed to find a zigzag route through, and on to the long East ridge leading up to the summit. The lower section of this was rock, and although not difficult, the scrambling drained much of our energy. Up and up we dragged ourselves until suddenly the rock gave way to snow. High up above us the summit was in view, and possibly within reach, if we could only raise enough energy to climb those last few hundred feet. Barbara and I were both really feeling the altitude and envied Wangyal and Jigmet who were quite unaffected, but, after a stop for Glucose Tablets (' for Instant Energy ! '), on we went to the final steep cornice. Whilst we rested Wangyal cut a passage through the soft overhanging snow, another 100 feet up, and there we were, on the summit of our first 20,000-foot peak. It was a thrilling moment, all the more because it was so unexpected. It had taken us six hours to climb 2,000 feet, but the descent by the same route took only two hours.

Back in camp over tea and onion chappattis we unanimously decided that the following day should be a day of rest, our first since leaving Manali eighteen days ago. We thereupon slept from 6 p.m. till 9 a.m., had a leisurely breakfast, and spent a pleasant day surveying on the glacier. At the same time we studied Central Peak for the best route. There were three alternatives, the very long but easy-angled North-east ridge, the short but steep South ridge, or one of the rock buttresses of the South-east face. We wanted to find a route that would enable us to climb the mountain in a single day in order to avoid carrying heavy loads whilst rock-climbing, so determined first to try the shortest way, the South-east face.

Leaving at 7 a.m. next morning, with Jigmet and Wangyal again, we had crossed the bergschrund within an hour, and after 200 feet of step-cutting reached the foot of the rock. We had expected it to be loose shale, but found to our delight that it was reasonably sound granite, providing some really fine rock-climbing. We were both also feeling much better than on our previous two climbs

and progress was quite rapid. After about 500 feet the angle steepened, and we were confronted by a series of steep rock walls. Several times it seemed we would be forced to abandon our buttress for the ice couloir on our right, down which hurtled large stone-falls every few minutes, but luck was with us, and on each occasion we managed to find a way round the obstacle.

At 12 p.m. we reached the crest of the South ridge, and were able to look down on Tanda Camp and the main Bara Shigri Glacier far below; another hour of delightful ridge-climbing reminiscent of Crib Goch in Snowdonia, and we were on the summit, a beautifully pointed summit crowned by one block on which there was just room for the four of us to sit, our legs dangling over into space.

We were now in the happy position of having climbed our two main objectives and still having seven days left before our rendezvous with the ponies. After some discussion we eventually decided to return to our Advanced Base Camp, collect another five days' food, and explore part of the range to the west of the Bara Shigri with the object of finding a new pass across into the Tos Nullah.

To save time we moved down to Tanda Camp that same evening, covering the last two miles in the dark, and were down at Base Camp by 2 p.m. next day. After re-packing, a much-needed wash, and a magnificent meal from the 'luxury tin', we set off early next morning for the unexplored glacier basin opposite our camp. The lower section was the usual glacial debris, but after about two miles we found ourselves on snow, and at a fork in the glacier. Both branches looked equally unpromising, so we decided to camp at the fork and explore from there. After setting up camp, we started up the smaller south branch, and after about half a mile saw what appeared to be a col leading in the right direction. With mounting excitement we made our way up the ice-fall, negotiating snow bridges and cutting steps across crevasses amongst most magnificent ice scenery.

On and on we went, determined not to turn back until we reached the col, although we knew it was getting late, but when only about 200 feet below it, we came to a completely impassable crevasse. It was more than 120 feet deep, far too wide to jump, and stretched the whole width of the ice-fall between vertical rock walls. Beyond it, tantalizingly close, a smooth slope led easily over the col, although of course we could not see what the other side was like. Perhaps another year the ice-fall will have changed, and a party will be able to reach the col and answer this question.

October. With only three days left now, we decided to move camp straight up the other branch of the glacier without a preliminary reconnaissance. This saved us a day but made it a very arduous ascent as much of the way we had to cut steps with heavy loads on our backs, and it took us five hours to go two miles and 1,500 feet up. Above the ice-fall the only camp-site free from the danger of avalanches was a small patch of level snow surrounded on three sides by wide crevasses. On the fourth side was a small crevasse, which we just hoped would not open up and leave us stranded on our ' iceberg '.

Next morning we set off first to reconnoitre the low col lying to the north of our camp, and after an easy scramble up a scree reached its top, only to find a very long ice-slope down the other side, far too steep to be a practicable pass down into the next glacier basin. It seemed that after all we would be forced to return to the main glacier by the same route, but we still had one day left before we must go down. Studying the surrounding peaks we decided that only one looked even faintly possible, the unnamed twenty-thousander directly above our camp-site. From bearings and photographs we have since identified this as 20,495 feet, marked on the Survey of India map, but at the time we were not at all sure which peak it was, since the topography of this area did not agree with Lynam's provisional map at all.

One of the ridges from 20,495 ran down to the col on which we were standing, so we set off to try to find a route up it. Up and up we climbed, finding some excellent rock-climbing on steep sound rock, but after five hours we were still less than a third of the way up the mountain, so had to abandon that route as impracticable. On the descent, however, we found another much more feasible route, zigzagging on ledges straight down the East face, so decided to try for the summit by this route next day.

Leaving at 7 a.m., we made rapid progress up the section that we had descended the previous day, but further up the angle steepened, and we came to a huge vertical rock wall, completely holdless and unclimbable. Our hearts sank, but Wangyal, always a genius at route finding, discovered a snow couloir round the side, and on we went, although much precious time had been wasted. At 2.30 p.m. we reached the heavily corniced snow ridge leading to the summit. Keeping well down from the edge we battled along, a strong wind driving snow into our faces, and mist blowing eerily around, obscuring any view. At 3.30 p.m. we reached what we thought was the summit, only to see about 50 yards away and 50 feet above us another pinnacle, the true summit. It was clearly climbable, but

would have taken us at least an hour in those conditions, so we eventually decided that, with only three hours of daylight left for the descent, those last 50 feet were not worth a night in the open and possibly frost-bite, and after all, what were 50 feet in 20,000 ?

As fast as possible we climbed, scrambled, and slid down, and at dusk reached the vertical rock wall where we resorted to abseiling. This brought us on to easier ground but it was now completely dark, and still a thousand feet of rock and snow lay between us and our tents so that it seemed that we would have to bivouac out there for the night. We determined to keep moving as long as possible, however, and teeth chattering in the biting wind, gingerly felt our way down the loose boulders and scree-covered ledges, very conscious of the thousand-foot drop to the glacier below. Progress was very slow, and several times we came to an impossible section and had to retrace our steps, but after four hours we glimpsed level snow ahead, the glacier ! Crossing the snow proved to be the most difficult part of the whole descent, as in the dark we could not see the crevasses, and in fact Jigmet did fall into one, but being still all roped together, we hauled him safely out again, and half an hour later reached our tents, exactly fifteen hours after leaving them that morning. This ascent (and descent !) had been definitely the most interesting and memorable of our three peaks, and all four of us, squeezed into one tent, celebrated into the early hours with tea, soup, and a baby bottle of brandy.

With only one day's food left we hurried down next morning, and the following morning reached Base Camp, our supplies reduced to ¼ lb. margarine and one spoonful of jam—our ration scale had been accurate. It took five days to return to Manali, the Chandra river now being low enough for the ponies to cross. The journey was enlivened by the exchange of four gallons of surplus kerosene for a live sheep. For ten rupees' worth of kerosene we had a whole sheep, that provided four large meals for the six of us. This was a lucky purchase, for usually no food of any sort is available in the Chandra valley, and in fact the valley was almost completely deserted when we returned along it in October.

The night before we crossed the Rhotang Pass a heavy snowfall occurred, and next day as our ponies struggled over, more snow was falling, bringing to an end the good weather we had enjoyed almost continually for five weeks. It was clearly time to be getting back to the valleys and plains, but as we left the mountains behind our spirits were not too low, for, unlike most expeditions, we were not travelling thousands of miles away from the Himalayas, only a few hundred to Delhi, where we were to spend the winter before

a three-month expedition to Western Nepal in March, 1962. May it only be as enjoyable and successful as our weeks among the mountains of Kulu.

Note on weather.

Contrary to many predictions, the weather from mid-September to mid-October was remarkably good, and snow conditions excellent. From October 7th onwards we experienced light snow-falls each afternoon, but the first heavy winter fall came on October 13th.

Note on cost (for two people).

Overland journey from England:	
Petrol	£ 90
Other expenses	£ 60
Equipment (including porters')	£ 160
Food	£ 20
Hire of 3 porters for 5 weeks	£ 50
Hire of ponies for 12 days	£ 35
Films, insurance, etc.	£ 50
	£ 465

(plus return journey)

THE SALTORO EXPEDITION, 1960

By P. J. STEPHENSON

I HAD just retreated to bed in January with jaundice when the Pakistan Government letter came. Permission for our proposed expedition had been declined on the valid enough grounds that several expeditions had already been granted a permit; the countryside's resources in Baltistan could hardly tolerate another. I was feeling ill enough to be grateful in a way, for the expedition was to have started in another four months' time—now I could relax in my illness.

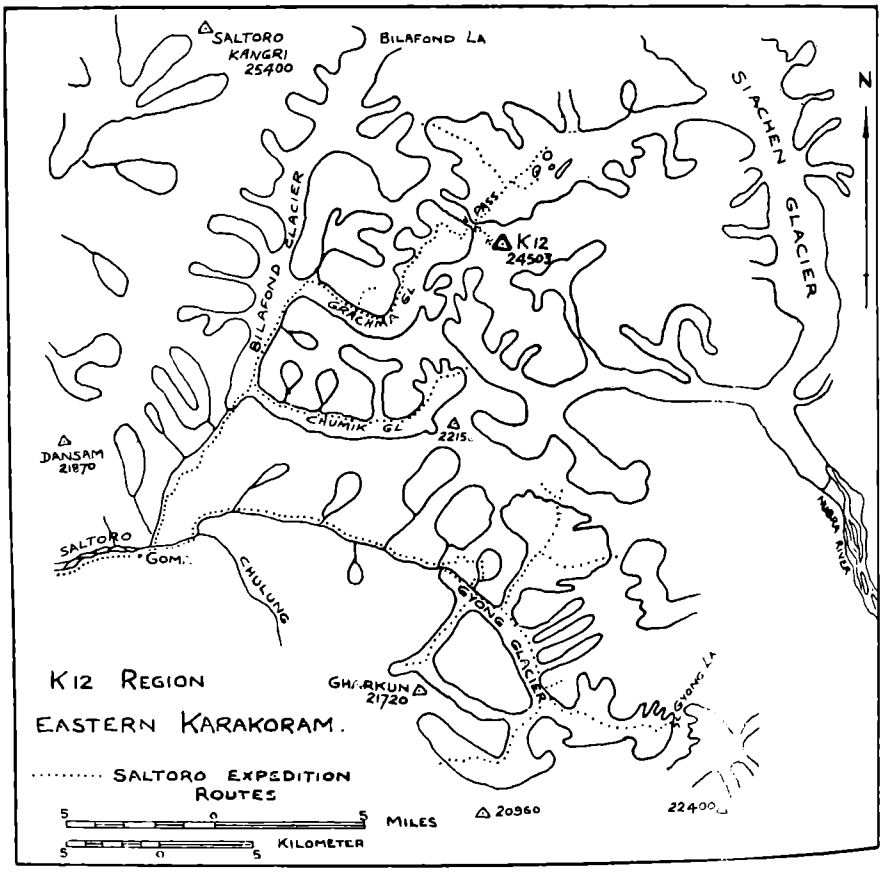
However, this was not to be! A vigorous telegram from Keith Miller, organizer of the expedition in England, shattered my rest. Surely the Pakistan Government could somehow fit our small expedition in alongside the other ones? Soon, as a result of Miller's insistence, every known string was being pulled and ten weeks later, through the support given to our re-application by the Australian High Commissioner in Karachi, we obtained a permit.

Setting off from Rawalpindi by air for Skardu in mid-May, our expedition objective was to visit the Saltoro region of the eastern Karakoram. T. G. Longstaff[1] explored much of this region for the first time in 1909 when he discovered the mighty Siachen Glacier and his maps show the complex topography with remarkable accuracy, over the large region he explored. However, in some of the ground within the triangle between the Siachen Glacier, Shyok River, and the Bilafond Valley, the existing maps, published by the old Survey of India, are somewhat vague or even blank. No expedition since Longstaff's had penetrated far into this triangle (*see* map) but Shipton's expedition in 1957 drew attention to some of its topographic puzzles when they looked into it from the Siachen side.[2]

Our present expedition was composed of five men: K. J. Miller (organizer, English), Capt. R. Sebastian Khan (Pakistan Army, liaison officer), J. P. Hurley (anthropologist, U.S.A.), D. Haffner (England) and myself (leader and geologist, Australia). Hurley, Khan and I joined the expedition in Pakistan where we had been working, while Miller and Haffner journeyed from England.

[1] Longstaff, T. G. (1910). *Geographical Journal*, Vol. 35, pp. 622–58.
[2] Shipton, E. E. (1958). *Alpine Journal*, Vol. 63, p. 185.
Miller, K. J. (1958). *Himalayan Journal*, Vol. 21, pp. 33–39.

The expedition had many objectives, including exploration and mapping of the region surrounding peak K12 which we also hoped to climb. Hurley was to continue the ethnological studies in Baltistan which he had been making for three years, and I was to do as much geological work as I could in the upper Saltoro region. Another objective, not even embarked upon, was to have been a final 'jaunt' up to the head of the Siachen Glacier, to find a pass across to the Baltoro Glacier. We had even intended a return home down the Baltoro ! The problem of this possible 'pass', which evaded the Bullock-Workmans, still exists and fully merits the attention of some specific expedition.



We set off from Skardu on May 21st in pouring rain (allegedly very rare there) with a train of ponies carrying our gear. Using early morning starts to avoid the searing midday heat of the dry valley, we walked in four days to Khapalu. On the second day Miller was forced to return to the Skardu hospital with severe

dysentery but after a week's treatment completely recovered and followed us to the Saltoro.

In Khapalu we were entertained by the Rajah who took us for a delightful afternoon tea in his palace which looks out over the extensive orchards of the town and the wide Shyok River valley across to the dramatic towers and pinnacles of the Saltoro spires beyond.

The Rajah told us many interesting things about his state, and the history of his ancestors who lived in a fortress the ruins of which remain on the summit of the crag towering behind the present palace.

We went on, crossing the Shyok River by 'zak' ferry, inflated goat skins serving to support a raft. As noted by earlier travellers, the prejudice still persists against paddles in favour of simple, thin willow poles. Following up the Saltoro River we travelled along beneath the magnificent rock towers and peaks of the Saltoro spires, which looked even more impressive lost in cloud. The rugged nature of this range, along the northern side of the Saltoro Valley, completely belies its appearance on the maps. Through the Rajah of Khapalu we had arranged to purchase 10 maunds of atta, and we collected this in various Saltoro villages. The last village in the valley is Gema, at 11,000 feet, and from here we made our route north up the Bilafond Valley. This glacial valley is most impressive, with high sheer walls and an almost tunnel-like aspect as one enters it; the valley, only one mile wide, is a trench with walls from 3,000 to 7,000 feet high. Comparison of the position of the snout of the Bilafond Glacier with photographs taken by Longstaff in 1909 shows scarcely any change though the present height of the snout appears to be less. At the time of our visit the character of the snout indicated slow advance.

After a short reconnaissance a route up the east bank of the Bilafond Glacier was used to reach the second tributary glacier on this side, locally known as the Grachma Lungba ('frigid' valley). An easy approach was found up the north bank of this side glacier to the site of the base camp, at 15,000 feet. We had the camp on moraine next to the marginal trough of the glacier on the north side, well away from the tremendous southern wall which periodically releases most spectacular avalanches. Retaining the five best men as high-altitude porters, we spent the first week of June reconnoitring the Grachma Lungba, looking for a route to the pass which lies north-west of K12. The mountain itself remains hidden until one turns the sharp corner of the glacier and is able to look into the upper reaches. The mountain presents steep faces on this

south-west side, ornamented with hanging ice-cliffs, but the north-west ridge falls in steep but accessible-looking buttresses to the pass at the head of the glacier. On Shipton's suggestion we intended to attain this pass to gain access to the extensive snow basin his 1957 expedition had discovered lying to the north of it. The pass would also give us access to the north-west ridge in the planned attempt on the mountain. There are three large ice-falls on the glacier, but we were able easily to skirt the two lower ones on the west side, setting up Camp 1 at 16,500 feet and Camp 2 near 18,000. Above 18,000 feet we were feeling altitude with severe afternoon headaches, and our first attempt to find a route through the upper ice-fall was unsuccessful for we were unable to negotiate the final crevasse, an enormous chasm 70 feet deep which extended completely across the ice-field. In view of our as yet limited acclimatization, we descended to Camp 1 to continue more rapidly the surveying which Miller had meanwhile begun.

The morning after coming down, we woke in the warm stillness of snow, and bad weather set in for the next ten days. Efforts to persist with the survey work were largely frustrated by snow storms and after four days there was no alternative but to descend to base, since the incidence of avalanches, hidden behind steadily falling snow, was rising. The descent to base in the new snow was very laborious.

The next week was spent in base, while the weather displayed something of a definite daily cycle. After storms throughout the day, in the evenings at sunset the mountains would clear themselves of cloud. By 7 or 8 a.m. the following morning, however, clouds would gather again and, between 8 and 11, snow storms would commence. This hampered the survey operations considerably, and delayed plans for the pass, so that it was not until the end of the third week of June that we were able to return to the higher camps.

On June 23rd, Haffner and I set out at dawn from Camp 2, to look for a route through the upper ice-fall to reach the pass. Reaching again the edge of the great chasm, there seemed no other course than to start the long job of cutting steps and fixing ropes up the steep ice-slopes beyond one end. It suddenly occurred to me to descend into the crevasse and attempt a route along it, for the floor was well filled in, so we quickly climbed down a drift slope. Making our way along the crevasse floor towards the south we wandered through a most pleasing, almost incredible labyrinth of turnings and tunnels, with superb greenish-blue ice rising sheer close on either side. There was some danger from the enormous

icicles which festooned the overhangs, in curtains 10 to 12 feet high and in spears 6 inches thick, but at this early hour our risk was slight. The floor was sound though deep in snow, and after more than 100 yards we turned a corner where a rising ice rib offered exit from the crevasse. Half an hour's steep ice cutting followed, with a piton, until we peered over the edge only to see an easy snow ramp we could have used beyond the next corner !

We continued far enough in the upper basin to assure the route to the pass, now directly above us. Haffner broke the bridge of a nasty crevasse, and this upper basin, with its somewhat spongy snow and menace from the hanging ice-cliffs on the face of K12 above, was not a healthy spot. We returned by descending en rappell into the chasm to avoid the icicle danger of the new route.

The next day saw a camp on the pass established, and with food for five men to last for ten days. It had been necessary to fix one section of rope on the ice traverse just below the pass. The weather now chose to continue poorly for four days, with strong winds, cloud, and at times more snow. The camp close to the pass was in a most exposed position and we moved $\frac{1}{2}$ mile down into the basin on the northern side, to be rewarded next morning with a wonderfully clear day, the fine peaks of the Teram Kangri group sparkling in the sun.

While Miller moved down into the broad snow basin with Haffner and Khan to make a number of photo-theodolite stations, Hurley and I worked as a separate group using the plane table. Two fine days allowed completion of most of the survey, but were followed by further bad weather. Surfaces throughout the basin were tiring, the crust consistently breaking to a depth of 6 inches. An attempt by Hurley and myself to reach the Siachen by travelling down the complicated glacier system from the basin failed when we were unable to find a route through the very heavy ice-fall. However, we observed a straightforward route passing the east side of the isolated rock peak in the lower part of the basin.

When we returned to the pass, Haffner and Khan were feeling altitude effects and it was clear that to alleviate their sleeplessness and lack of appetite, they must descend. Hurley and I planned to spend another day at the pass, in order to make a reconnaissance of the lower part of the north-west ridge of K12 which we had not so far attempted. Miller accompanied the other two men down from the pass back to base, and during the descent to Camp 2, an accident occurred. In the course of lowering packs into the great chasm, Miller was knocked unconscious by a block of snow which fell while he was receiving the loads beneath. He was fortunate to

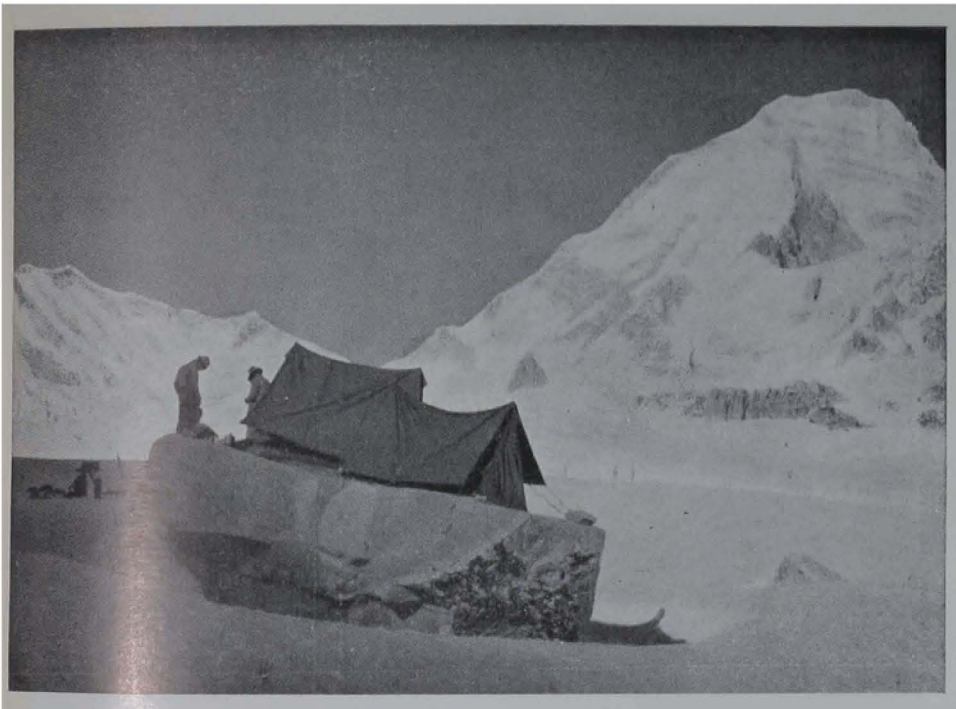
escape with only severe concussion but this necessitated his return to Skardu earlier than planned.

Meanwhile, Hurley and I were in Camp 3 on the pass. On the morning planned for the ridge reconnaissance, we woke in bad weather which built up into an impressive storm. We had arranged for three porters to come up from Camp 2 to arrive at 8 a.m. that day, to evacuate the camp, and to our utter disbelief they arrived, plastered in drift, at the height of the storm, which was Antarctic-like in its violence. Almost grumbling at their lack of consideration, we emerged from our sleeping-bags and helped them lower the camp and descend to Camp 2.

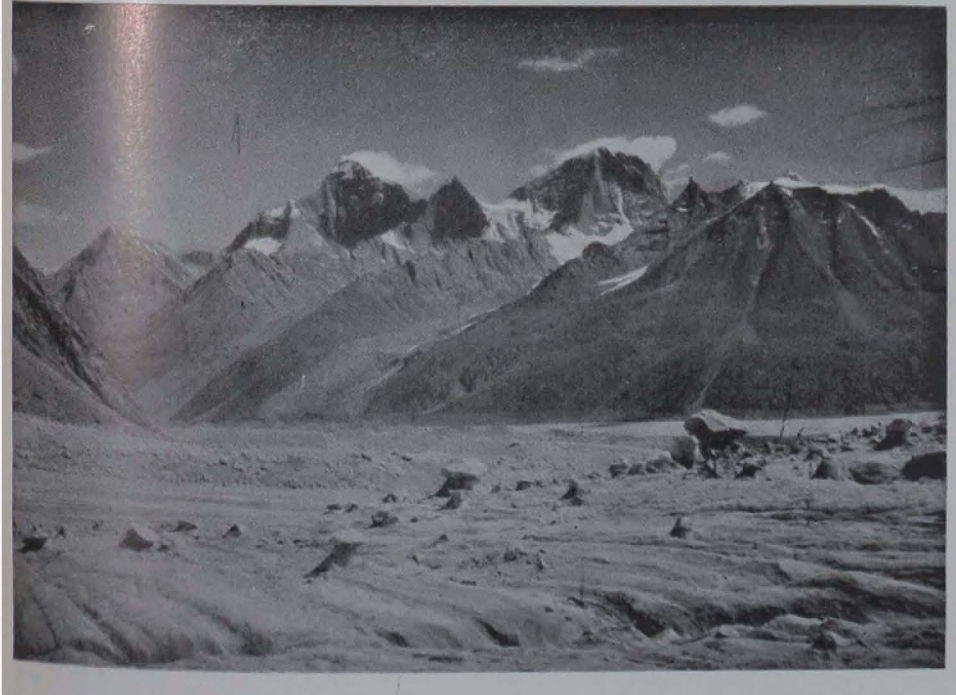
The next day, July 4th, dawned crisp and clear. But what else could we do but descend to base where the others waited and also the mailman ? Base camp had changed markedly during our fortnight's absence, wild flowers and grass having appeared in profusion in place of snow. The weather was agonizingly fine, the peaks standing high around us held still and clear in the brilliant sunshine. This spell of good weather proved to be the best we had on the expedition for it was to last for another five days. Sensing this, I decided to stay on with Hurley and four of the porters, while Miller descended and returned to Skardu ; Haffner and Khan would descend to Goma to arrange supplies for a planned journey up the Chumik Glacier in a week's time. Hurley and I hoped to take advantage of the weather to have another look at K12.

In perfect weather we returned in two days to Camp 3 on the pass. Setting out early with two of the porters we began cutting steps up the ridge rising to K12. Breaking crusted snow overlying ice, it was necessary to proceed slowly, for unfortunately we had no crampons for the porters. At the foot of the second step of the ridge, some 600 feet above the pass, there is a wonderful site for a camp, where overhanging rock shelters a small but flat gravelled bench on which three tents could be pitched end to end. We continued up the snow and ice buttress beyond which the ridge steepens to 50° or 60° and care was required. Above, a sweeping snow rib led us on to the foot of a rock step, beyond which a further long snow and ice buttress rises steeply.

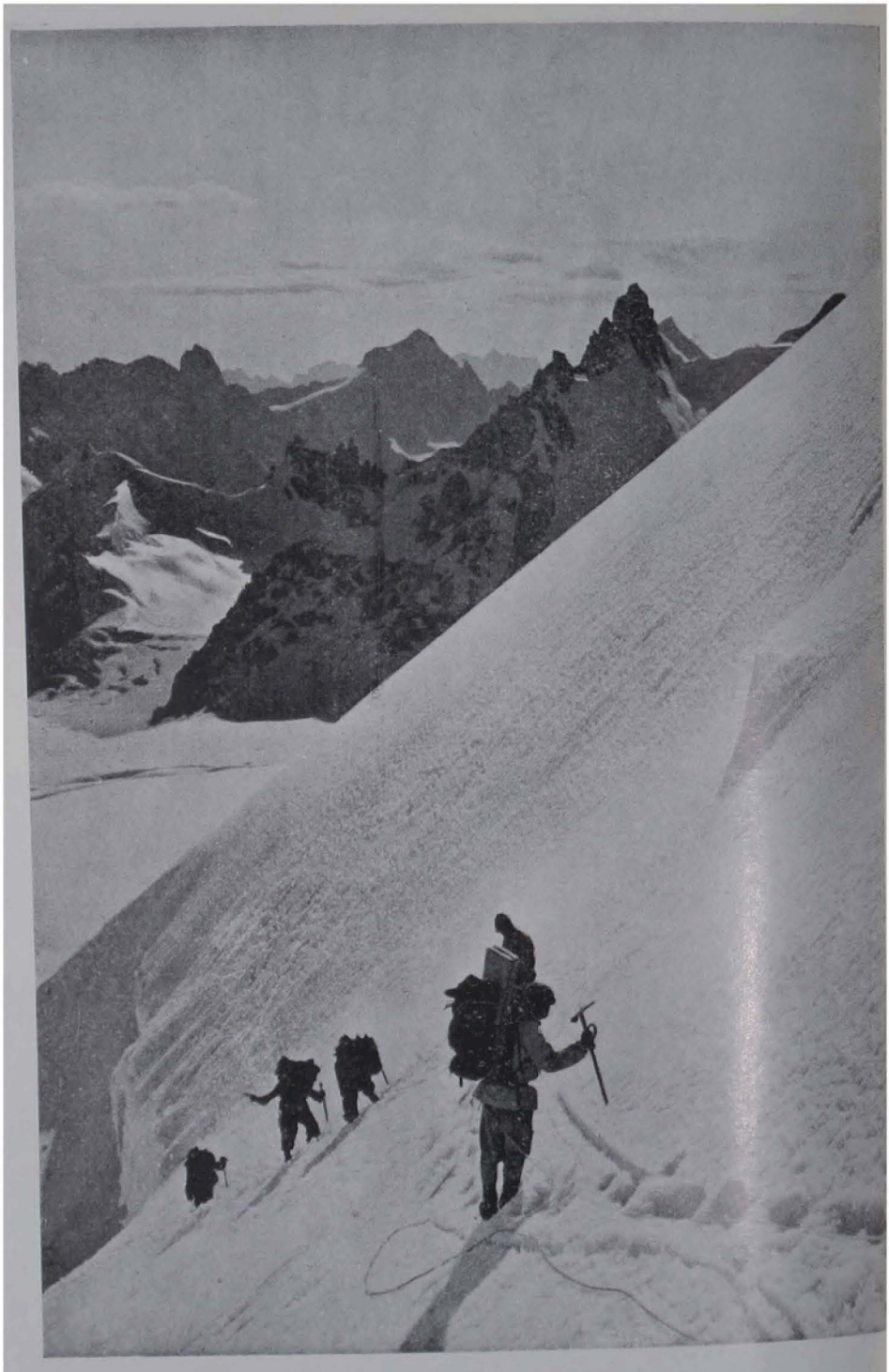
It was now 2 p.m. and ordinarily the two porters would have descended at this stage to leave Hurley and myself with the tent, to continue the reconnaissance next day. Hurley had no previous mountaineering experience, yet had climbed strongly to reach this point. Nevertheless, he argued cogently that I might have more chance for success on the summit next day if Mohd. Choo, a particularly able porter, were to continue. So Hurley descended with



CAMP I ON THE GRACHMA GLACIER WITH K12 IN THE BACKGROUND



UNNAMED PEAKS OVER 21,000 FEET IN THE UPPER GYONG VALLEY



PORTERS DESCENDING THE ICE-SLOPE BELOW THE PASS WHERE A FIXED ROPE WAS PLACED

the second porter, Mohd. Daud. Choo and I climbed the rock step with some difficulty, and after quite a search located a small space for the tent at a height close to 20,700 feet. The view was fantastic, the wildness of peaks, spires and ridges being picked out in their incredible succession by the setting sun.

We consumed early breakfast (Choo having his customary 8 lumps of sugar per cup of tea) and started before dawn. The first steep pitch on the buttress above the camp was impressive and we made the mistake of taking the easier angle of the crest itself, having to climb smooth green ice. A firm ice-piton reassured the position and after two rope lengths firm snow deepened and provided good axe belays. After several hundred feet it became possible to move to the accessible rocks which led us to the top of the buttress. We had now come level with the main ice-cliffs which ornament the west face of K12 and the smooth ice apron above these, sweeping up beside the ridge towards the summit, offered an alternative to the ridge. The ridge itself rises in an unrelieved snow buttress for more than 1,000 feet and we were grateful to avoid its steepness by cramponing out across the ice-field. This was awkwardly steep in places at first but later firm snow permitted more comfortable climbing. At 9.30 we began to steepen our traverse and I began to conjecture in terms of the summit, for the day was perfect and this route surely leads smoothly up. But we were moving more slowly and Choo appeared to be distressed by the exertion. Shortly before 11 he requested a halt, and I went on alone, the height now being somewhat more than 22,000 feet. Surely, I felt, I could climb 2,000 feet in four or five hours ? But climbing ever slower, at 3 o'clock my altitude meter still suggested less than 23,000 feet. I climbed across to a minor rock ridge at the edge of the ice-field and from this vantage point photographed the scene for survey purposes. I had the thrill of looking down into the south and south-east sides of K12 which I believe no one has previously seen, and to my delight observed that the published map details of much of this country are entirely incorrect. It was easy to turn back for I was extremely tired and the summit would still have been four hours away. Besides, Choo awaited me.

I descended. Choo was not well, and during his wait one of his toes had been mildly frost-bitten. We climbed on down and, with the steep snow on the ridge in excellent condition, we reached the tent soon after dark at 8 p.m. Two porters climbed up from the pass next morning and helped us down with the camp. Joining Hurley, we all descended to Camp 2, having to pass through the chasm on the way at a time when the icicles were most dangerous.

Sprinting from cover to cover we were thankful to emerge, to reach the lower camp in a brilliant sunset featured by a strong solar halo and mock suns.

The following day the weather changed and by midday snow was falling. On the way down the glacier, while testing a snow-bridge with my axe, I was shaken to see the shaft snap cleanly just below the head, the discoloured wood indicating an old weakness ! And this the axe with which I had been cutting scores of steps on the ridge two days before ! With this and the weather, it was as well we were off the mountain.

Hurley now returned to Skardu, spending two weeks on the way continuing his researches into history and religion. In addition to collecting more information on the Nur Bakshiya Islamic Sect (peculiar to Baltistan), he succeeded in obtaining the first written record of the Kesar legend in its Balti version, an epic poem which is recited over the course of 12 nights.

Haffner and Khan had waited for our return, and with two porters we ascended the Chumik Glacier. I was keen to fix the head of the glacier and try to obtain a view into the unknown country beyond. We reached the head in two days from the Bilafond junction, but four days' bad weather there frustrated our survey plans. From the crest of the northern gap at the head of the Chumik we did obtain views of the southern face of K12 and down into a large glacier which flows east and then north beside this mountain to join the Siachen Glacier just visible 10 miles away.

On returning to Goma, we received news of a further substantial scientific grant to the expedition. While Haffner had to return to his job in England, Khan and I were free to remain on for another three weeks. Although Longstaff explored the Gyong Glacier to its head, the Gyong La, in 1909, the original map published by the Survey of India leaves this region blank. We decided to spend the remainder of our time making a plane-table survey of the Gyong Glacier system. It proved to be quite the most delightful country we had seen on the expedition, and in two weeks we succeeded in mapping the glaciers above the Gyong snout. By comparison with Longstaff's photographs, the main snout appears to be in almost exactly the same position now as in 1909. But in contrast some of the side glaciers have in some cases retreated up to $1\frac{1}{2}$ miles.

The glacier system of the Gyong affords easy travelling and includes an extensive system of side glaciers and basins in a region of most attractive peaks. There are some 9 or 10 fine peaks between 20,000 and 22,000 feet and the most prominent of these is Gharkun (21,720) which has two almost equal horn-like summits. Another

peak, 22,400 feet, lying to the east of the Gyong La, is even more impressive though unnamed. We reached the Gyong La which Longstaff noted was impassable for porters in 1909. It now appears accessible. We visited several other passes at the edge of the Gyong basin, one overlooking the K12 region, and another leading east of Gharkun into the Chulung Glacier.

When we had returned to Goma, Khan was anxious not to forfeit his annual leave, and after a few days we returned in six days to Skardu. A further wait of six days saw us on a plane to Rawalpindi.

ROYAL AIR FORCE KARAKORAM EXPEDITION, 1961

By A. J. M. SMYTH

As many members of the Himalayan Club well know, there are two kinds of expedition: the all-out attack on a high mountain ending in complete success or complete failure, and the exploratory expedition where an unknown region is visited and convenient peaks climbed. The first type is most deeply ingrained in the imagination of the public, who are almost incapable of understanding the second where success or failure is far less easy to define. As with the 1955 expedition of the R.A.F. Mountaineering Association to Lahul, we in 1961 did not do everything we intended. We did not climb K6, but at least we contributed to human knowledge on this peak. But with two 22,000 feet and two 20,000 feet summits attained, a glacier system opened up, and, we hope, a good map, we have no reason to be disappointed with our results.

The choice of the Hushe Valley which runs northward from the Shyok at Khapalu may seem strange, for many parties have been up it on their way to Masherbrum, but it happens to lie in a pocket between the better known and better surveyed areas of Haramosh, Baltoro and Siachen, which has been overlooked by previous expeditions. Moreover, in spite of its accessibility, only one party—from Harvard in 1957—has previously penetrated the South Chogolisa Glacier, while no climbing party has ever been to the Aling. With K6, Peak Baltistan, of 23,890 feet in the area, and probably many mountains of 21,000 to 22,000 feet, we had no reason to doubt that Hushe would suit our limited resources in experience and money.

The expedition consisted of twelve British climbers of whom eleven came from the R.A.F., and one guest climber—Chris Jonson—from the R.N. We divided ourselves into a main climbing party of Sims, Nichols, Wilkinson and Bottomer, a survey party of Mervyn Hughes, Aitken and Addis, and an administrative party of Jones the doctor, Ridley for equipment, Shaw Close for transport and myself as leader. Of course teams were very flexible, but I think I can claim that the administrative team climbed as much as the climbing team and their greater luck and smaller ambition brought them a high proportion of successes. The party was joined by the Pakistan Air Force contingent of two—Squadron Leader Shah Khan of Rakaposhi fame, and Flight-Lieutenant Beg, a new-comer. Saib Shah,

on high seventh major Karakoram Expedition, represented Pakistan Survey.

This party assembled at Skardu Rest House on June 28th having been flown in by P.A.F., together with our five tons of stores. We had been anxious about the supply of high-altitude porters (H.A.P.s), but the Austrian Expedition led by Erich Waschak had returned some days previously, and there were a number of highly recommended men available. We soon chose Guhlam Rasoul as sirdar and about five others, planning to make up the numbers to ten at Khapalu. I went to the Political Agent, Faizullah Khan, where we had a number of details to settle. We were most anxious to know of the Austrian progress on K6 for we knew that they had permission to look at it from the east; we here heard that they thought it looked impossible from that direction, and did not have time to make a real attempt. We then cleared our own political permits. Here we had slight difficulty, since our party had been several times amended since the original application a year previously. One such amendment list had not got through, but since I had my copy and the acknowledgement of this, it was accepted. It is a good thing to take all official letters and copies of replies to Skardu if proceeding into the military area immediately east of it.

Without actually being our objective, K6 was of the greatest interest, and therefore we decided to look at it first. In order not to hold up the main baggage train, Sims, Nichols and Bottomer were formed up into a light reconnaissance group with three H.A.P.s including Rasoul, and they left at first light on the 29th with four baggage ponies. It was their sufferings as reported to us by the local doctor who came in one of the three jeeps of Baltistan that made us decide to set off at 2 a.m. the next day.

For those who have not been to this end of the Himalayas, I will give a brief picture of Baltistan. An annual rain equivalent of only five inches puts it in the desert class, and nothing useful can grow below 15,000 feet without some form of irrigation. The melting of the snows on the peaks allows plenty of water to flow down the side valleys, and the occasional rapids allow water to be taken from the river for use lower down the valley; but in spite of the frequent rich villages with their lush vegetation, much of the way is desert and hard going during the heat of the day. Our route to Khapalu was 62 miles long, first up the Indus and then up the Shyok, following the jeep track opened only a month before we arrived. The jeeps arrived in quantity while we were in the mountains, so it is probable that we shall have been the last expedition to travel with ponies on this stretch.

The second peculiarity of Baltistan is its almost complete surface isolation. The previous trade routes via the Deosai Plains or the Zoji La are cut where they cross the Cease-Fire Line, leaving only the very difficult route via the Indus Gorge which is unsuitable for anything but lightly loaded mules. Everything for Baltistan now has to fly in and out of Skardu, and will continue to do so until the new road is cut through.

The first day leaves rather a bitter memory, and it was my fault that I was thinking of Singhik and Gwaldam when I decided to use the Rest House at Gol. The march of twenty miles, mostly across desert, was indeed hot, but those who reached the end by 9 a.m. avoided the grilling experienced by those who travelled with the last loads. Our troubles really started with our insistence that all unloaded baggage should be stored in the Rest House; again, when I made this decision, I had in mind the story of Noyce's unpleasant experience of the Nagas. In fact, the honesty of our Balti drivers and porters was absolute. Our fifty-one loads completely filled the main courtyard of the little house, built to accommodate only one guest at a time, yet bulging with eleven sahibs and ten expedition staff. The doctor then waded in and put the chowkidar and his kitchen completely out of bounds on the grounds that his son had typhoid. He then proceeded to give Gol its greatest entertainment of all time by treating about two hundred patients during the afternoon.

Though there are signs that Baltistan will get a health service, and there is a hospital at Skardu and a dispensary at Khapalu, the villages are still almost without attention. We had been warned of this, and Doc Jones had acquired from the drug suppliers a total of five hundred pounds weight of medical supplies, which we carried grudgingly. The sick parades were a little difficult because no member of the party, not even the Pakistanis, spoke Balti; usually a schoolboy was found whose Urdu was adequate and who gladly interpreted, but usually he was deficient in the more intimate medical terms. Tooth extraction was a great attraction, particularly when we began to run short of local anaesthetic; but the courage of the Baltis more than made up for this. I had to hold the head of one boy while the doctor took out a most difficult tooth, the patient hardly uttering a sound. In spite of all this practice, Doc Jones still broke one of my teeth when he tried to take it out later in the expedition.

It only took about three days for things to find their proper place in spite of Hughes and Aitken running temperatures of 105 degrees. At Korphuk we detached Saib Shah and Pete Addis to go up

Ombartru, the local trig. point, in order to tie in our survey with the rest of the world. They caught us up eight days later. At Khapalu we paid off the ponies and prepared for the crossing of the Shyok. The Rajah paid us a visit with the local schoolmaster, both of whom entertained us in return. On the way back we had an amusing (for the spectators) polo match on his ground, played on the pack ponies we had just engaged, but who had neither saddles nor bridles. Pack ponies do not make ideal polo ponies for they have funny habits. For one thing they prefer to walk in line astern. Jimmie Aitken, however, had one which loved leaning up against one of its fellows. At odd periods of the match it would saunter up to you and lean against your mount, quite oblivious of any discouragement offered by an embarrassed Aitken.

The crossing of the Shyok went smoothly enough, thirty-six loads lifted twice over the main channel and a side channel by the usual goatskin rafts. We moved steadily into the Hushe Valley, now carried by 139 porters at the exorbitant fee of ten rupees per day each as laid down by the Government. This consists of four rupees actual pay, four rupees ration allowance, and two rupees for the return journey unloaded. We did our best to stop sub-contracting but without much success. This iniquitous practice consists of a porter signing on to carry a load from A to B, but getting another to do the actual work for a quarter of the wage. Such a rate, far in excess of the market value of the labour, is certainly having the effect of driving expeditions to India and Nepal. Unfortunately the big semi-national expeditions of America (Masherbrum), Austria (Sherpi Kangri) and Italy (Gasherbrum) have so inflated prices that even the Sherpa fees seem reasonable.

At Kande we received the news from Sims, but it did not tell us in black and white that K6 was a proposition. While the rest of the team outspanned at Kande at nine o'clock on July 6th, Wilkinson and I carried straight on up the Ngamah. This is a superb valley for its flat narrow bottom receives enough water for vegetation, most of it wild, to attain some luxuriance. The sides rise vertically for a mile or so, confining the sky to a narrow arc of 50 degrees. After a pleasant camp by the summer huts of Ngamah, we were on the road early and just caught Sims in his main camp at 13,000 feet as he set out for a day's pleasure climbing. We went on up to a planning conference at 15,000 feet with the south-west face of K6 spread out before us.

After spending already five days in the Ngamah, Sims was very doubtful about our chances of climbing K6 from this side. He had been up a ridge to about 20,000 feet but it had petered out in

unclimbable precipices. However, there did seem one possible way which led across the south-west face in an ascending terrace, but there were several disadvantages. Firstly, the approach was up a steep ice-fall which did not seem easy. Then the terrace led below several large hanging glaciers and seemed to form the main channel of discharge for them. This in itself did not present an ideal climbing prospect, but would be unpleasant if no safe alternative camp-sites existed. As the terrace extended from about 17,000 to 22,500 feet such camp-sites would inevitably be necessary.

The gallery and the approach to it were not the only aspects we did not like. Once on the fairly easy ground below the western summit, all was plain sailing for about two miles until well up the eastern (higher) summit. Thenceforward the route led up a difficult rock ridge. For about an hour we argued the pros and cons of committing the whole expedition to a task which obviously had its dangers in case of a sudden spell of bad weather. Since we were not in any way committed to K6, we decided not to attack it since our chances of success were not very great.

Before dismissing K6 from our thoughts entirely, we decided that we must have a look at the north face, because Nick Clinch with the Harvard party in 1957 had been far from definite on the possibilities from this side. I, therefore, went down to Kande to join the main body while Sims went round to the Chogolisa Valley where he set up a camp which became known as 'Chog Camp' and was used by the surveyors for some weeks. I put the rest into camp above Hushe village, while Jonson and I joined Sims and were promptly given the job of reconnaissance.

Sims and Wilkinson from their camp at the foot of the Chogolisa Glacier had already found that the best way led up the gallery on the north side of the glacier to the dividing point of the south and north streams. Thereafter a gallery continued up the north side of the South Chogolisa via a summer hutment for a short way, but we could then cut across to the centre where the ice became excellent and continued so beyond K6. Jonson and I did not find the way as easily as this, but stood below the north face of K6 just after dawn on July 11th. There was no question about it. A direct assault on K6 from the north was impossible for the average gradient was about 70 degrees. However, it would have been possible to get up to the western ridge and to climb the very attractive peak forming the western end which we called Bell Peak. But because we knew that Clinch had climbed in this area, we did not wish to duplicate his work.

The time had now come for us to part company with the

surveyors, so we left them all comfortably settled in Chog Camp, complete with Saib Shah and Addis who had now caught us up after a very successful trip to Ombartru. They were to work their way round the South and North Chogolisa glaciers, the Chundogero and Masherbrum glaciers, and eventually join us on the Aling. Meanwhile I returned to Hushe, meeting on the way a very smart gentleman apparently from my old school, but realized it was only Rasoul in cast-off clothing. I subsequently met him in one of my city suits and wished I had given away my bowler to go with it.

On July 13th Sims established the Aling Base Camp at 13,000 feet under some rose bushes at the very foot of the main Aling terminal moraine. He had traversed on the north side of the rivers from Chog Camp, having a rough crossing of the Masherbrum River, nearly losing an H.A.P. in the process. Immediately above the Base Camp, the West Aling Glacier joined the main stream, and in between the two streams stood Green Mountain, an excellent platform from which to get some idea of the lower Aling system.

By the time we arrived at Base Camp, Sims had already climbed the 17,000 feet of Green Mountain, and decided that his party would climb Twin Peaks, a beautiful mountain with a divided top in the 22,000 feet region. The way up the East Aling being duly marked, all available manpower was used to carry loads to Camp I at about 16,500 feet where we left Sims to fight his way up the first ice-fall. His attempts ended in failure—for several reasons: the low altitude (17,500 feet) of the ice-fall and warm temperature exposed climbers to much falling debris except between midnight and dawn; steps, once cut, melted out in a day or two; the severe gradient of the fall; and the fact that five days of bad weather followed the first two days of effort. By the time Sims returned to his work, successes elsewhere suggested that Twin Peaks represented rather a small return for expenditure in time and effort.

Luckily the period of bad weather which was holding up Sims in his struggles with an ice-fall at 18,000 feet did not hold up Ridley, Nichols, Jonson and Jones in their exploration of the Main Aling Glacier between 13,000 and 16,000 feet. On leaving the Base Camp on the south side of the Aling River where it emerges from the ice, they crossed to the north bank of the glacier and followed it by galleries, where they existed, to the very centre of the system at the confluence of the north-east, north and north-west streams. Here a camp (Camp Ia) was laid down which became an advanced base, about seven hours' good going from Base Camp, and at a height of about 16,000 feet. It was a dreary route, and it passed, about half-way up, a small bivouac which was the only sign of any

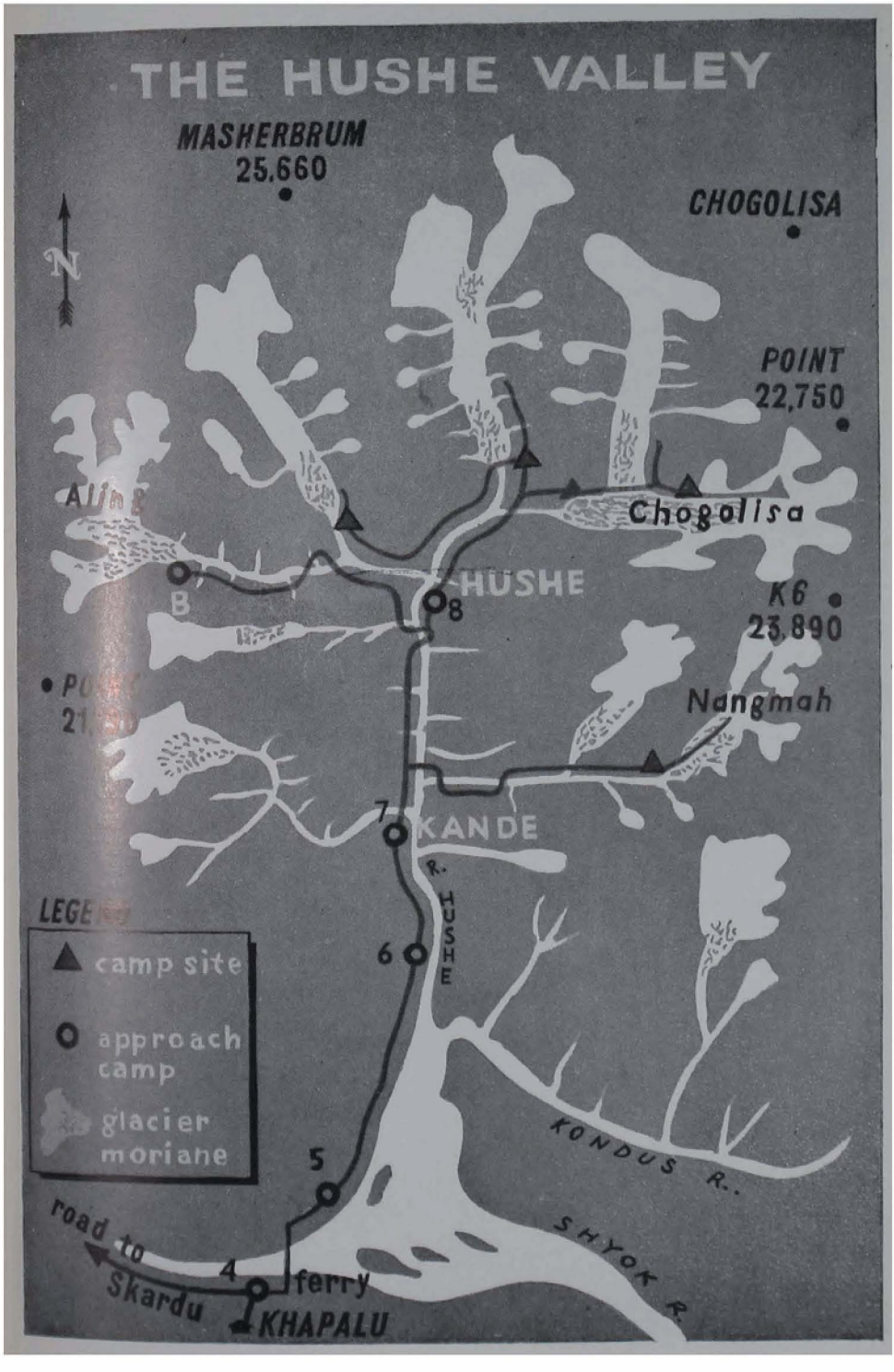
previous human visit to the area. Presumably this was the limit of the visit of the U.S. Consul in Peshawar in 1959 (?).

Sims and his team, still down at Base Camp in improving weather, devoted July 20th to brushing up their ice technique and that of the liaison officers on the ice-cliffs while I dealt with a vast ocean of correspondence. We were just settling down to the evening 'Clag' session when the doctor rushed into camp with the news that Nichols had pneumonia at Camp Ia. Jones had given him a massive dose of tetra-cycline from an aircraft emergency pack, and then came down for the oxygen set. These sets, made originally by 'do-it-yourself' methods for Annapurna II by members of the R.A.F., proved perfectly serviceable in spite of rough handling on the journey. We therefore organized for a large party at first light in case a carry-back should be necessary.

However, when we arrived at Camp Ia shortly after noon the next day, we found Pete Nichols making tea for us, seeming little the worse for his attack. With everything mobilized for a great effort, the weather fine, and a sense of expectancy abroad, there seemed nothing better to do than go off and climb something. Since Nichols had found a way through the North-east Glacier ice-fall before his illness, it was decided to go up that way and tackle two summits we could just see, and which we called Sceptre and Mitre because of some alleged resemblance.

The North-east Glacier was passed mainly by the east side which might prove a little hazardous in the afternoon, and for this reason we sent down the H.A.P.s at 10, relaying the stores the final half-hour up the glacier ourselves. A camp (Camp IIa) was set up on the level snow-covered upper glacier at about 18,000 feet, and well placed for both of the peaks in mind. The idea was that Jonson and I should try Sceptre, the steeper of the two, by the west ridge, while Ridley, Shah Khan and Doc should try Mitre by the north ridge. Things turned out differently.

There were only about ten degrees of frost in the night, and although the surface of the snow was hard enough to give a good crampon grip, it was still soft four inches below. Jonson and I left camp at 4 a.m. and were half-way up the mountain and across the bergschrund by 5. Here the west ridge petered out into the face and the angle steepened. While the climbing was fairly easy, it became apparent that Seligman (Snow Structure) would not like the situation. Five days' snow had fallen on ice made by one month's sun, and only two days had elapsed since. After the harder surface, the ice-axe penetrated very easily for a foot and there met solid ice. The adhesion between the two layers did not seem good. How


THE HUSHE VALLEY
MASHERBRUM
25,660
CHOGOLISA
N
POINT
22,750
Chogolisa
HUSHE
K6
23,890
Nangmah
KANDE
R. HUSHE
LEGEND
camp site
approach camp
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KONDUS R.
SHYOK R.
road to Skardu
ferry
KHAPALU
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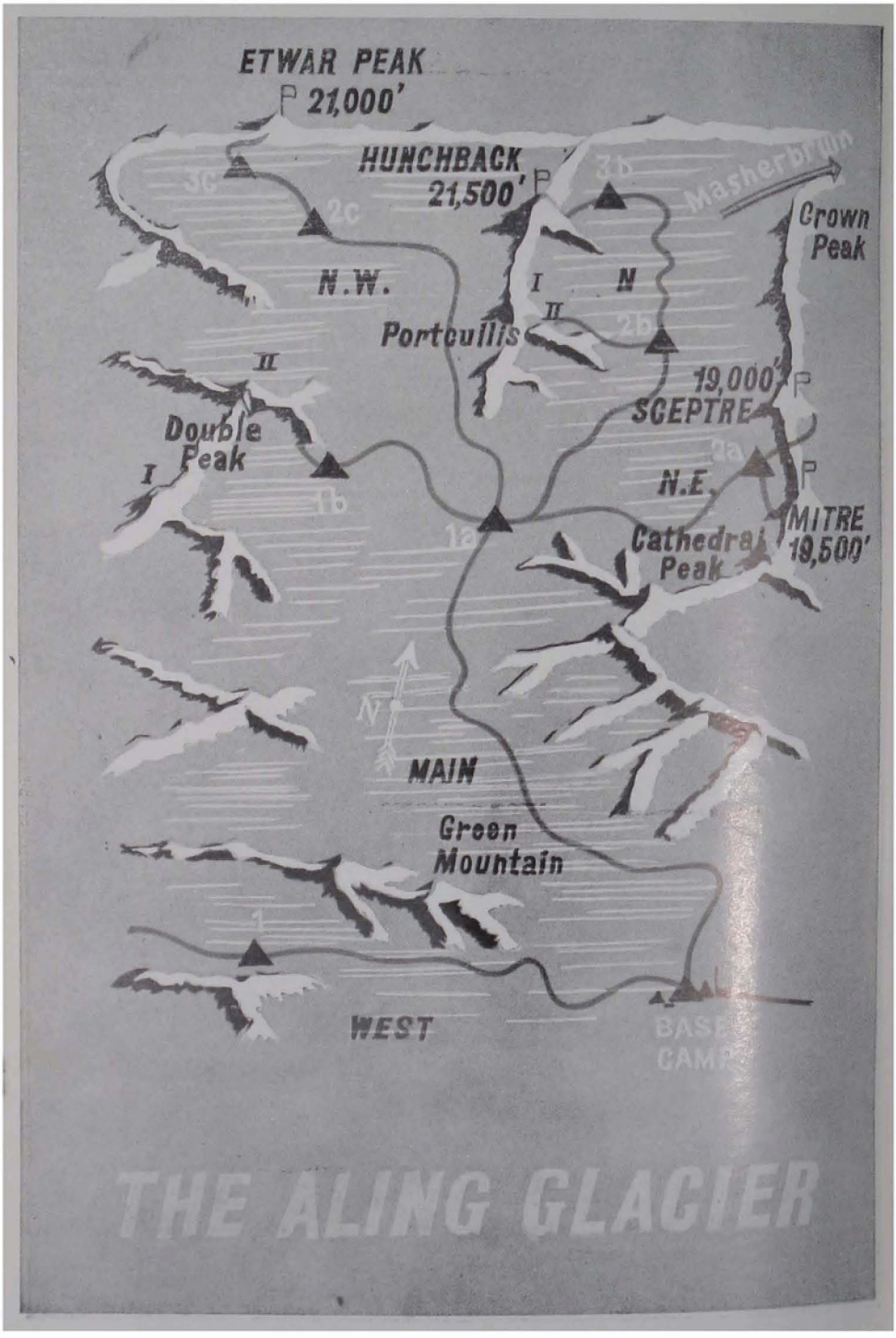
ETWAR PEAK
P 21,000'
HUNCHBACK
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2c
3b
Masherbrum
Crown
Peak
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I
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Portcullis
2b
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19,000'
SCEPTRE
P
Double
Peak
I
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Cathedral
Peak
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MAIN
Green
Mountain
1
WEST
BASE
CAMP
THE ALING GLACIER

SCEPTRE AND MITRE FROM CAMP Ia

MITRE AND CATHEDRAL PEAKS SEEN UP NE. ALING GLACIER FROM CAMP Ib. SMYTH, JONSON, RIDLEY, JONES AND SHAH KHAN ALL CLIMBED MITRE

TWIN PEAKS AT HEAD OF WEST ALING. ICE-FALL NOT SAFE

would it be at noon on such a large and unbroken snow-field? We decided to take no chances and quickly descended to try the other ridge while there was still time.

On the col between Sceptre and Mitre we overtook Ridley and party, held up by large cornices on top of an almost vertical wall to the east. Leaving everything on the col, including all our cameras, we started up the south ridge of Sceptre which was broken rock and snow at about 40 degrees. All would have been well had this continued, but large cornices appeared which overhung the east face to a considerable degree. These forced us to make frequent traverses of the south-west face, where the snow was even more unstable than we had met on our earlier route. However, the surfaces involved were far smaller and a slide would not have meant inevitable disaster. Three times we were forced off the ridge, to regain it by a pleasant climb mostly on rock. The last such, involving slabs of about five different standards, led us into a chimney which led to the summit. It is interesting to note that we climbed these last 1,000 feet one at a time as we found that it gave us just the rest we needed to regain our breath at 20,000 feet. We reached the summit at 9 a.m. and lost no time in descending.

After an afternoon in a snow-hole to avoid the intolerable heat of tents, we prepared for a combined assault on Mitre the next day. This time I led Doc Jones, while Ridley followed with Shah Khan and Jonson. The way was by a side valley which joined a rock and ice gulley splitting the south-west face. This gulley, which became dangerous the minute the sun loosened the slopes above, led to a pleasant ridge starting at a gradient of 25 degrees, but which led directly to the summit at a steadily increasing angle. We had no difficulty, and reached the summit in about two hours. From it we got a wonderful view all round, but especially of the climb of the day before, and of Masherbrum, only about five miles away.

With some mountains climbed at least, we descended to Base Camp that day, passing the Sims party on their way up having evacuated Camp I. After a few days of recuperation, they set up a camp (Camp IIb) on the North Aling which runs parallel to the north-east, but separated from it by a line of cliffs about 1,000 feet high. From this camp at about 18,000 feet, they had a grand day's climbing on a peak they called Portcullis, failing to get to the top by a few hundred feet where they were foiled by overhanging ice-cliffs. They put a higher camp (Camp IIIb) at nearly 21,000 feet above the head of the North Glacier, and from there could certainly have reached two or three 22,000 feet summits had the weather held. As

it was, they only made Hunchback before worsening weather and lack of supplies drove them down again.

But although it was now August, and we were due to evacuate Base Camp on the 9th, Ridley, Nichols, Jonson and Doc Jones went off up the North-west Aling for another attempt. With camps at 18,000 and 20,000 feet, they climbed Atwa (Sunday) Peak by its south-west ridge—Addis (from the survey party) and Ridley on August 6th and Nichols and Jonson from an even higher camp the day after. The survey party had, by this time, finished their field work, though it may be a year or more before the final results are available. Before we left, a large dancing floor was constructed at Base Camp and an evening of Hushe dancing was held with our 56 porters assembled for the journey down.

Since *The Himalayan Journal* is the most likely publication to reach anyone intending to visit the Hushe Valley, I ought to end with a summary of its interests. Botanically, only the Ngamah held much plant life, and zoologically, only ibex and ram chukor were much in evidence. Snow leopard tracks were seen and evidence of bears, but little else. As a climbing area the mountains are too steep for the average small party, but the Apo Brok Valley, west from Kande, might turn out to offer the same scope as the Aling, and is, as far as we know, unvisited. The people are charming, unwashed and honest, and a few of the young speak Urdu ; they learnt English quicker than we learnt Balti.

THREE MONTHS IN WEST NEPAL

by JOHN TYSON

(*Reprinted from* The Alpine Journal, *No. 304, May 1962*)

IN parts of West Nepal there survive to this day not single mountains but entire ranges about which no accurate information exists, and where no peaks have been mapped, climbed or even visited. My own introduction to West Nepal came in 1953 when W. H. Murray and I travelled through the outlying parts of Baitadi, Bajang and Silgarhi-Doti, circling the Api and Nampa massif and trying to unravel some of the topographical problems of the splendid Yokapahar Himal between the main Himalayan range and Tibet.[1]

The countryside was one of great poverty, and this journey which lasted ten weeks persuaded me of the merits of the small lightly-equipped party, able to live largely off the land without causing hardship to the villagers. With so many unclimbed summits on all sides, and such a dearth of scientific knowledge of the region, it seemed that the majority of West Nepal was still in the phase of reconnaissance mountaineering where the small expedition, often with scientific aims, comes most fully into its own.

Some 90 miles further east, where Nepal is at its broadest, lie the even more remote groups of the Sisne Himal, Patrasi Himal and Kanjiroba Himal, probably still the least-known ranges of the entire Himalaya. Prior to the ' opening up ' of Nepal we have the records of only two parties in the vicinity of these ranges: in 1900 the Japanese Kawaguchi travelled through the district of Dolpo, which lies immediately to the east of the group, on his way north towards Tibet[2]; and in the years 1925 and 1926 two Indian officers of the Survey of India, Jugal Behari Lal and Lalbir Singh Thapa, passed to the south of the group, supervising the triangulation work and some of the plane-tabling for the reconnaissance survey which covered almost the whole of Nepal. This survey, made with small resources and against time, was an astonishing achievement, and resulted in a reasonably good map of those parts which did not lie beyond the visibility of the triangulation.[3]

Since the opening up of Nepal to foreign expeditions several

[1] *Alpine Journal*, Vol. LIX, No. 289, November 1954, pp. 421–427.
[2] *Three Years in Tibet*, by Shramana Ekai Kawaguchi, Theosophical Publishing House, Benares and London, 1909.
[3] *Survey of India General Report, 1926-27.*

small expeditions, mostly with scientific aims, have visited the southern and eastern fringes of these ranges. Notable among them were the plant-collecting journeys of L. H. J. Williams, W. R. Sykes and Oleg Polunin in 1952 sponsored by the Natural History Museum,[4] and the visits of the Orientalists Tucci[5] and Snellgrove[6] in 1954 and 1956. From the mountaineering standpoint the only successful ascents in this entire area had been made in 1953 by Herbert Tichy of Vienna in the course of his remarkable journey across Western Nepal from Kathmandu to Pithoragarh. Stopping at Kaigaon with his four Sherpas, he had made his way up the steep Jagdula Khola and climbed two fine peaks in the Jagdula Lekh.[7] The years 1958 and 1959 saw two expeditions which aimed to explore the Kanjiroba Himal from the district of Dolpo to the east. The Japanese expedition of Jiro Kawakita reached Phopa but was unable to cross the Langu (Namlang) River and had to be content with photographs of the impressive landscape to the west across this impassable gorge.[8] The American expedition of the following year, concentrating on the Mukut Himal, scarcely had time for any detailed examination of the eastern approaches to the massif.[9]

It was against this background that at the end of March 1961 James Burnet and I flew out to Delhi and boarded the train for Lucknow, Gonda and Nepalganj Road. Here on the Nepalese Frontier our party assembled. John Earle, expedition quartermaster, who had travelled ahead of us with the stores, was found tired and perspiring in the Indian Customs shed, battling to clear our equipment out of India. Our Liaison Officer, Manik Tuladhar,[10] also joined us here, together with the three Sherpas we had engaged from Kathmandu—Sirdar Ang Dawa,[10] Mingma Tsering and Angtemba III. An unexpected fourth Sherpa, Angtemba the Cook, appeared later, so that we 'should not suffer from lackness of Sherpa'. He turned out to be the Sirdar's brother and a real 'old soldier'.

[4] *Journal of the Royal Horticultural Society*, Vol. LXXVIII, Part Nine, September 1953, pp. 323–337.

[5] *Preliminary Report on Two Scientific Expeditions in Nepal*, by Professor Giuseppe Tucci, Rome, 1946.

[6] *Himalayan Pilgrimage*, by Dr. D. L. Snellgrove, Cassirer (Oxford). 1961.

[7] *Land der namenlosen Berge*, by Dr. Herbert Tichy, Vienna, 1954.

[8] *From Mukut Himal to Kanjiroba Himal in Nepal Himalaya*, by Professor Jiro Kawakita, *Japanese Alpine Journal*, Vol. LIV, 1959, pp. 76–116.

[9] *Mukut Himal and Kanjiroba Himal*, by John S. Humphreys, *American Alpine Journal*, 1960.

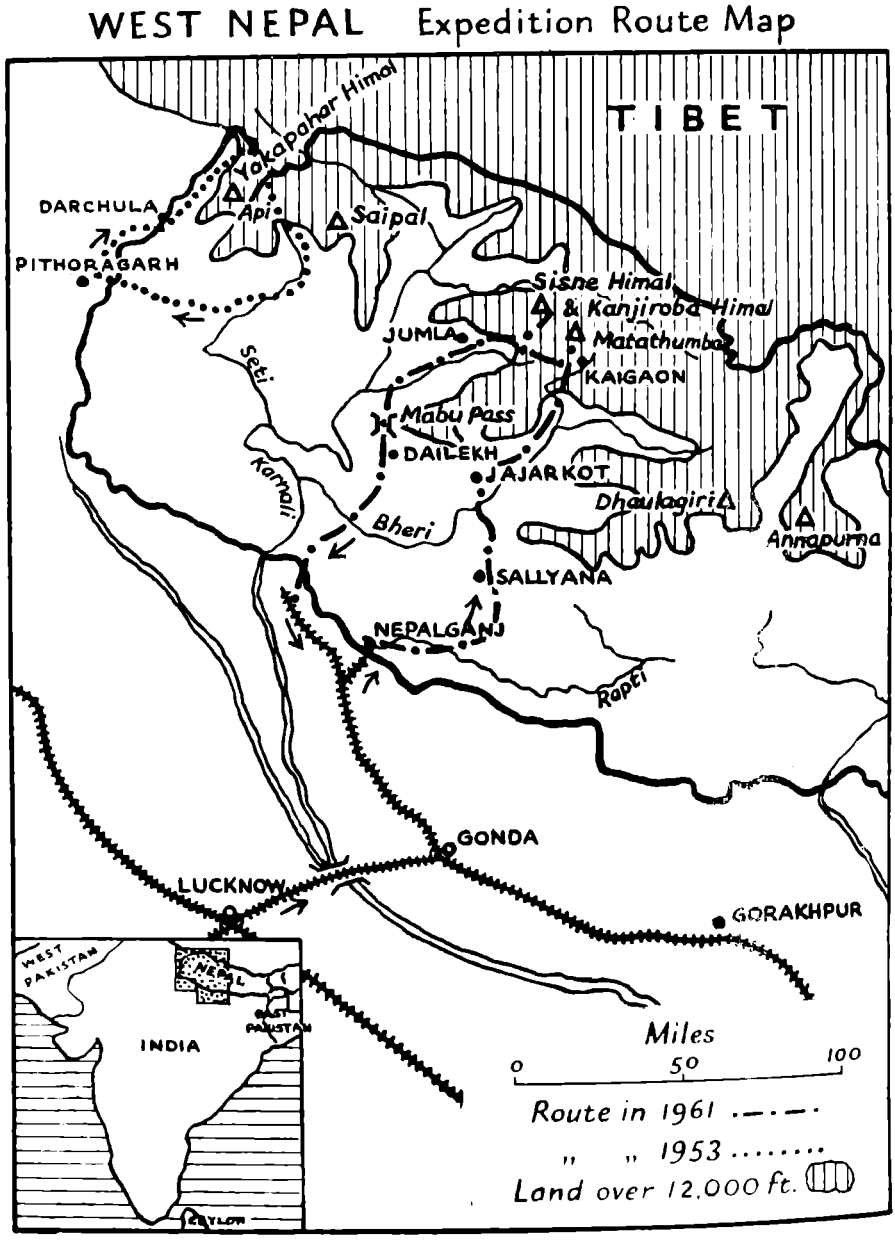
[10] Both Manik Tuladhar and Ang Dawa had been with the American Expedition to Mukut Himal.

Although Nepalganj is one of the five recognized points of entry into Nepal we appeared to be the only expedition to have come through by this route, and our pile of crates, wireless and rifle were viewed with despondency. While the question of our entry was referred to 'higher authority' we optimistically began the task of finding ponies, and drew out enough money in Nepalese and Indian coin and notes to last the next three months. Significantly, no one in Nepal or elsewhere could tell us what currencies would be acceptable in the regions we proposed to visit. To the people of Kathmandu, Jumla, and indeed most of this side of Nepal, are regarded very much as the 'Wild West'. Nepalganj itself, only 400 feet above sea-level, proved unattractive, dusty and excessively hot, and if the three frustrating days we were compelled to spend there passed reasonably quickly it was thanks to the kindness of Miss Tomaseck and the staff of the American Mission Nursery. They housed us and fed us, and put us in touch with many friends in Nepalganj.

Our main object on this expedition was the mapping of the ranges surrounding the Jagdula Khola and the climbing of some of these peaks. The ponies were laden not only with the usual mountaineering gear but also with several heavy crates containing the delicate survey instruments when on April 5th we set off eastwards across the monotonous and densely wooded plains of the Terai towards Sallyana, some six days' journey away. This part being notorious for dacoits preying on the baggage trains, our pony-men insisted that we travel armed until we had safely crossed the dusty Siwalik hills to the valley of the Babai. Here we camped among attractive but timid Tharu villagers. Beyond Tulsipur we turned northwards over the Mahabharat range, making our way through a varied landscape of terraced hills towards the fortress town of Sallyana where the Bara Hakim gave us all a most friendly reception. He had great plans for the development of his district: a High School had already been opened (as schoolmasters we inspected it with great interest) and a hospital was being built. To emphasize the point, a helicopter with a load of building materials suddenly appeared overhead. There are no roads in the Province.

Three days beyond Sallyana was Jajarkot, the last settlement of importance on our route, and the final point to which ponies could be taken. Especially memorable on this stage was a high-level trek through forests of flowering rhododendron with glimpses of the whole range of the Dhaulagiri Himal floating above the afternoon

heat-haze. Later the track dropped to the sultry Bheri valley carved from beds of conglomerate hundreds of feet thick. Near Jajarkot, we crossed over the Bheri, one of the great rivers of Nepal, by a steel suspension bridge bearing the name 'Henderson, Aberdeen'. It had been carried by coolies in 1927 through the foothills for 80 miles and erected here by Indian engineers.



From Jajarkot we followed the right bank of the Bheri northwards to Dali. From now on the villages became smaller, the country poorer and our progress slower. Generally messages had to be sent to several villages before porters could be found for the next stage. There was often confusion as to how far each stage should be. We would have preferred to make a *bandobast* right to Kaigaon, but it soon became clear that none of the men had heard of Kaigaon and that few had travelled more than a day's journey above their village. Despite these problems the men were friendly and willing, and carried heavy loads, often through the heat of the day, for very low wages. At Tallon an agreement was made for the rest of the journey to Kaigaon, reputed to be still six days distant. The path now climbed and descended for thousands of feet over a succession of steep and rocky spurs, from the crests of which we obtained tantalizing views of snowy ranges to the north. To the east beyond the Bheri rose the imposing mass of Hiunchuli Patan.

Not a single doctor visits this huge area of country, and each night many pathetic cases were brought to us for treatment, often from distant valleys. Most were beyond cure—goitre, cataracts or tuberculosis of many years' standing—but we did our best and from time to time were rewarded with decisive cures—a small boy with pneumonia, for example. Not all our visitors came for treatment. The majority came to stare, for no white man had ever been seen in this part of the Upper Bheri. Each evening the semi-circle of squatting figures remained around our tent door until long after dark, and began to form again in the morning before we were awake. Binoculars, watches and cameras were all examined minutely ; but the greatest miracle was the wireless set which could speak to them from Kathmandu in their own language.

Near Ila we crossed the main river and climbed to a pass from which we could look northwards at the savage, icy crests of the Jagdula Lekh. Our route then descended through birch forests and across alpine meadows, where herds of yak grazed, to the little village of Kaigaon. Our arrival at Kaigaon is shown in the photograph. The journey from Nepalganj had taken 22 days.

At Kaigaon we began work on the map. Fortunately there was one point on our proposed sheet, at the extreme south, for which the Survey of India had been able to supply us with reliable trigonometrical data. This was the Chaukri Snow Peak, 17,892 feet, which we had successfully identified about 10 miles to the east of the track in the course of our march in. Our survey method was to compute an 'astronomical' base line some 7 miles in length, extending from a peak to the south of the Balangra Pass to the prominent rocky

summit south-west of Kaigaon. Vertical angles between these two stations and from each one to the Chaukri Snow Peak gave in addition the altitude of the two ends of the base line. The 'astrofix' method involved measuring by theodolite the altitudes of 4 stars in the 4 quadrants of the sky at precisely known times—hence the wireless.

It was at the end of April, when Earle and I with two Sherpas were taking an astrofix at night on the Kaigaon summit, that we had our worst experience of the expedition. Late in the evening a thunderstorm built up and the camp itself was struck, filling the tent with a powerful smell of cordite. Grabbing the Sherpas, we stumbled down a steep slope and cowered in the snow 100 feet below the crest while the zips of our down-jackets glowed and lightning played on the ridge above. We escaped with our lives, but the precious wireless set in our tent had been put out of action.

On May 4th, Earle set up base camp on an alpine meadow two days' journey up the Jagdula Khola. Here Burnet and I later joined him after computing our base line and finishing some survey stations below, and during the weeks which followed the map progressed steadily. Our survey stations were mostly at heights of between 13,000 feet and 17,000 feet. The climbs up to these stations, often through snow-covered forests of great beauty, were among the most enjoyable days of the expedition. The forests abounded in game—bear, bharal, wild goat and ram chukor. Rhododendrons and azaleas flowered side by side, and primulas, anemones and potentillas covered the open slopes. Some of our survey stations could be completed in a day; others took several days and involved high camps, splendidly situated with views extending over nearly half the length of Nepal. As an additional check on position, resections were taken from Dhaulagiri, Hiunchuli Patan, the Chaukri Snow Peak, and from the peaks of Saipal far to the north-west. On clear days, the white dome of Api, 110 miles distant, was also visible and far away towards Tibet we could make out the range of the Yokapahar Himal which Da Norbu and I had attempted to cross during the monsoon eight years before.

One of our luckiest encounters was with Satal Prasad Thakali, a local shikari with an unrivalled knowledge of the forests and gorges to the north of Kaigaon. His younger brother, Krishnaram, also accompanied us frequently, and was one of our most reliable porters. While Earle and Burnet mapped the valley to the west of Base Camp, I set out with Ang Dawa and the shikari on a three-day reconnaissance up the Jagdula Khola. The valley divided into two branches, one draining the glaciers of the Sisne Himal and the

other eastern one flowing down from the north of the Kanjiroba Himal. ' Between was the group of high snow peaks shown in the photograph of the Jagdula Khola and conspicuous also in Tichy's pictures.[11] On the second day Ang Dawa and I crossed to the east bank and climbed for 3,000 feet for a view up the line of the valley towards the Sisne Himal. Progress along the steep, trackless and heavily eroded valley sides was desperately slow. Only on the decaying avalanche débris of the river bed, or in the river itself, could reasonable speed be kept up. I rejoined the others, satisfied, however, that a route could be made up this gorge provided enough time could be spared.

One of the finest viewpoints was Earle's and Burnet's camp on an easterly spur of the Patrasi Himal. To the north they could see and map parts of the complex glacier systems of the Sisne Himal, whilst southwards their uninterrupted view over the whole range of the Jagdula Lekh enabled them to examine and plan an interesting route there. Tichy and his Sherpas had climbed two summits of this range in 1953, naming them Dui Tal Chuli and Pasang Peak. To the north of Tichy's ' Dui Tal Chuli ' is a high mountain dominating the side valley above our Base Camp and called by the natives ' Kansirolba ', allegedly after a local god. Probably this peak gave its name to the so-called Kanjiroba Himal, of the Survey of India, but none of the natives on this side of the group apply the name to the range so marked on the Survey of India map ; instead they call the whole group ' Sisne Himal '. South-east of Dui Tal Chuli the Jagdula Lekh dominates Kaigaon on its southern side ; the local Kaigaon names corresponding to Dui Tal Chuli and Pasang Peak appear to be Dudh Kundali (Pond of Milk) and Ghyuthumba (Butter Mountain).

East of Ghyuthumba is Matathumba (Mother Mountain), and on May 14th the three of us with Mingma Tsering and the two Angtembas placed our Camp I on a northerly moraine of the Matathumba Glacier. Next day we carried Camp II up on to the glacier, and as we arrived before midday we were able to prospect the first part of the route which we had planned up steep snow to the col between Ghyuthumba and Matathumba. Here we found to our dismay a desperately narrow ridge with a sheer drop on the far side, and where we had hoped to climb eastwards along the main arête to Matathumba it was impossibly steep and thin. Disappointed, we returned to camp. From here we again studied the north face of the mountain, at length picking out a new route which we felt might go.

[11] *Chronique Himalayenne*, by Marcel Kurz, Fondation Suisse pour Explorations Alpines, Zurich, 1957 (Planche 54).

At 7.30 next morning, in the crisp, cold air, we set off, Earle and Burnet in the lead, myself following with Angtemba III and Mingma Tsering. We climbed steadily up steep snow slopes with icy patches, passing as quickly as possible beneath the lines of séracs. A high wind was blowing and powdered snow hissed and poured down on us from the ice-cliffs. Above these cliffs a dangerous windslab forced us to the left up steep ice-slopes to the corniced north-east arête, which to our surprise and relief gave easy access to the summit. This was a perfect snow dome, and we asked Mingma Tsering to go first to the top, carrying the Nepalese flag.

Beside Base Camp were the ruins of a Tibetan monastery. According to Satal Prasad Thakali it had been destroyed last century in the Nepal-Tibet wars, but stories were told of a route across the mountains to Dolpo which the Lamas had followed. Such legends are widespread in the Himalayas, and none of the present inhabitants could point out the line of the supposed route.

Earle and Burnet were keen to examine the Jagdula gorge for themselves, and while I completed some survey stations they set out with a week's supplies to find the Lamas' route or to force a way up the gorge. In Earle's own words:

'Little did James Burnet and I realize, as we set out with four coolies and three Sherpas, what a frustrating and utterly exhausting week we were to have. The first day we made three or four miles, climbing along the side of the steep valley, 1,000 feet or so above the river. The going was easy but awkward. Loose shale, tough stunted juniper and thorn bushes and interminable little side gorges made progress slow. The strain on our ankles was unpleasant as we moved across the slope, but by evening we came down to the snow-filled gorge of a side valley and camped in a delightful forest of silver birches near an overhanging cliff. During the evening James and I looked a little further up the main gorge. We did not find much encouragement in what we saw. The angle of the gorge steepened, and it was rock climbing for a lot of the way, in and out of the side gullies on loose cliffs and shale. For a while we descended and went to the snow-filled bottom of the gorge, under which we heard the roaring of the river. It did not look or feel too safe and we hastily climbed back again on to the rotten rock.

'Depressed by what we had seen, we decided the next day to follow the side valley and to try to get up to a col at about 16,500 feet which we had noted earlier from a survey peak, and so by-pass the gorge and get into the main massif from the side. It was an exhausting day. We started early and for two miles it was the same story as the main gorge; loose shale and stunted bushes made the

climbing in and out of the side gullies dangerous and slow. After traversing a rotten cliff-face we reached the snows—soft and wet. At every step we plunged in up to the knees, sometimes even to the waist, and progress was painfully slow and breathless. The col appeared to get no nearer. I had given up looking at it, and was delighted at length to glance up and see we were almost there. With high hopes we kicked up the final snow slope and looked over. Three thousand feet of sheer, loose rock, covered with snow and ice, plunged down to another gorge even more unpromising than the one we had left, and still on the other side the great line of magnificent peaks.

'For the next three days we tried various ways to penetrate the main gorge. The snow bridges on which we had walked two days earlier had collapsed in several places, leaving gaping chasms, at the bottom of which the brown waters frothed and raged. Our premonition of danger had been right. Trying to by-pass the valley bottom yet another way, we were caught in a blizzard on the ridge, and spent an unpleasant hour climbing down a shattered cliff-face which was rapidly becoming covered in wet snow. But all our efforts were in vain. Although we were at it for eight or nine hours a day, we never made more than a mile, and returned each night exhausted to our camp.'

Our map data being now complete, it was time to decide whether to spend longer struggling in the gorge or to move rapidly to the western side of the Sisne Himal in the hope of further climbing before the monsoon broke. We chose the latter course, and within ten days were encamped at Maharigaon. After the oppressive Jagdula Khola it was pleasant to walk on easy paths, to have company on the track and to find food in the villages. At Naphukona the path passed through an interesting and fine entrance-chöten, painted inside and on the roof with sets of 21 divinities. Near there we met a legal party on their way to try a murder case at Tibrikot.

It was now the first week in June and already the monsoon was beginning ; the air was damp and the peaks around us were wreathed in cloud. After exploring the head of the Maharigaon valley we crossed a col to the next one northwards on the Dalphu track, and entered a beautiful valley reminiscent in contour and colouring of North Wales. When we arrived the mist hung low above us and distant thunder rumbled. But luck was with us: suddenly the clouds parted for the first time in several days, and a snow peak of the Sisne Himal towered six or seven thousand feet above us. With field glasses we planned our route before once again the mists rolled

across. The following day we camped as high as possible on its southern flank.

Next morning we awoke at 4 a.m., but our hearts sank as we heard the rain drumming on the roof of the tent. However, by 6 a.m. it began to clear and seemed fine enough to justify a start for the three of us and Mingma Tsering. The route led off up scree until we reached an ' Alpine ' arête of good rock ; but this soon changed into rotten, loose shale at a steep angle before we eventually worked our way on to steep snow and finally ice, up which we climbed rapidly in crampons. The summit was reached at 1.30 p.m., and our altimeters read 21,000 feet, though I believe this to be an over-estimate.

On the way back to Maharigaon, Burnet stopped at the snowline to include in his collection of insects and plants for the British Museum many specimens of Apollo butterfly and some of the blue poppies (*Meconopsis grandis* Prain) now in flower. Nearby grew clusters of a rare and undescribed species of yellow primula, of which some fine specimens were gathered.

The work was over, yet still more than three weeks separated us from Nepalganj and the Plains of India. We had heard for weeks past about the ' town ' of Jumla which had a main street and shops containing everything a *sahib* could wish to buy, and certainly our brief stay there lacked nothing in hospitality.

Beyond Jumla our route followed the right bank of the Tila past the welcome springs of Tatapani, then across the river near Chilkha and on southwards over the 13,000 feet Mabu Pass. As we reached the top of this towards nightfall a torrential monsoon downpour burst upon us from a ragged, black sky. The normal route became impassable and we plunged down in the twilight through dense bamboo jungle. It soon became obvious that the coolies were lost, and we all spent a miserable night on a ledge in streaming rain.

The helpfulness and kindness of the Bara Hakim, Sri Jagat Bahadur Singh, made our short stay in Dailekh most enjoyable, whilst the messages which he kindly sent ahead greatly eased our journey through the country under his control. Near Dailekh we met three cheerful Gurkha riflemen, laden with musical instruments, returning home on leave from Malaya. It seemed odd to be swapping stories with them of the jungles of Johore and Pahang, and stranger still to hear that next year they would be coming to ' Blighty '.

Only the Bheri now lay in our path, and the crossing was made by dug-out canoe. The skill of the fishermen's paddling astonished us as we whirled diagonally across the river swollen by monsoon rain. After three more days we came over the last crest and saw the plains of the Ganges stretching before us. In a few hours we

Photo: John Tyson

VIEW NORTH UP THE MAIN GORGE OF THE JAGDULA KHOLA
TOWARDS THE GLACIERS OF THE SISNE HIMAL

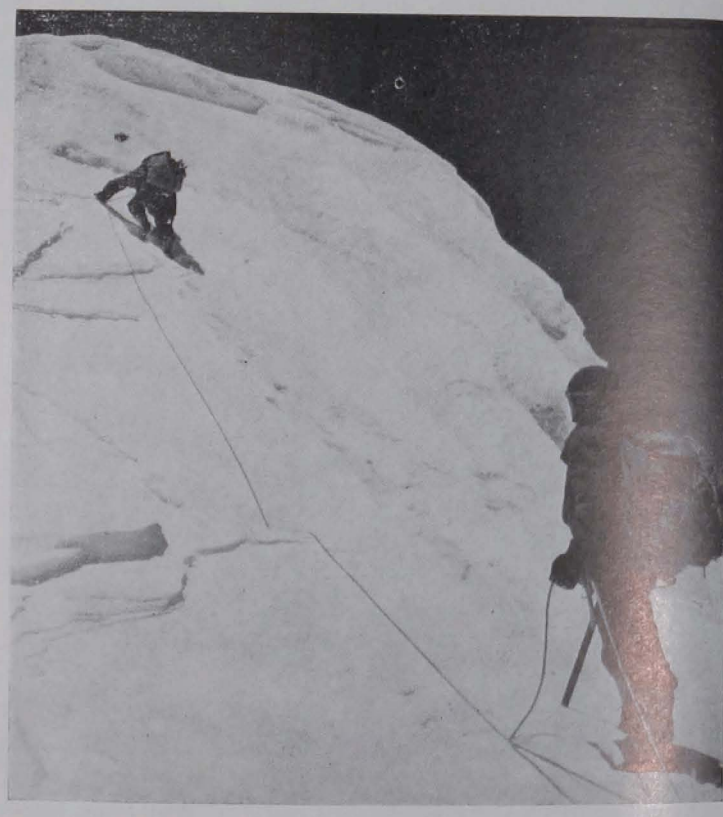


Photo: John Tyson

MATATHUMBA : THE LAST FEW FEET

Photo: John Earle

CAMP ON MATATHUMBA GLACIER. THE PEAK IN THE CENTRE IS THE GOAL OF THE JAGDULA EXPEDITION, 1962

Photo: John Earle

FROM A SURVEY STATION ON AN EASTERLY SPUR OF THE PATRASI HIMAL, EARLE AND BURNET MAPPED THE JAGDULA LEKH AND PLANNED A ROUTE ON MATA-THUMBA, IN THE CENTRE OF THIS PICTURE

Photo : John Earle

ARRIVAL OF THE EXPEDITION AT KAIGAON, 22 DAYS' JOURNEY FROM NEPALGANJ

descended the Siwalik Hills to the Terai, now marshy and humid. Here the system of carrying loads was to sling two crates to a pole and jog through the jungle at a near run ; but the laws of these Tharu people permitted them to carry only from their village to the next, and progress was reduced to a few miles a day. Exasperated, we managed at last to get buffalo carts, but even with them it was not easy going. Many of the little side streams of the Babai had become flooded, and more than once we had to leap out into the muddy water and tug and heave at the great wooden wheels to get the carts out on the other side of the ford, the buffaloes straining out of the mud like great primeval beasts.

In West Nepal there is none of the gradual return to sophisticated life which is such a pleasure in some parts of the Himalayas. There was nothing to show that our journey was at an end until a gap in the forest revealed a railway line and a siding of empty goods wagons. It was almost a shock to realize that it was all over ; but though conscious of the tremendous amount to be done in West Nepal, we did not feel quite ready yet to go back again.

NEELAKANTHA - CHOWKHAMBA EXPEDITION

By COMMODORE S. N. GOYAL

NEELAKANTHA has long been known as one of the more difficult peaks of the Himalayas. Standing only 21,640 feet high, it has withstood the challenge of several expeditions. Frank Smythe attempted it in 1937 and gave it the name ' Queen of Garhwal '. Other attempts were the British in May-June 1947, the Swiss in August 1947, New Zealand in 1951 and British again in 1952. Our expedition was thus the sixth known organized attempt to scale Neelakantha. One of the major objectives of the expedition was to reconnoitre its approaches for a summit attempt.

Pran Nikore and myself had made a short recce in the Rishi and Khir Ganga gorges during September 1958. Ever since, the name of Neelakantha had been ringing hopefully in our ears. A few members got together and gradually our team was formed. The climbing party included Chaturvedi, Chowdhury and Rawat of the Indian Air Force, Vijay Raina, a scientist of the Geological Survey Department, Nikore from C.W. and P.C. and myself. The Sherpas headed by Sirdar Pasang Dawa Lama of Cho-Oyu fame were Ajeeba of Annapoorna I, Sherpa Pasang, Sherpa Phurba Lobsong, Lhakpa Gyalbo and the youngest Sherpa Norbu. Flt.-Lt. Bhagwanani was the team doctor. The scientists' party included Dr. Rao and Messrs. Vohra and Chhabra. Raju and Dodpuri did the base administration work.

Nikore and I got down to planning early in 1959. It was an arduous task. I admired his consistent and frank advice on many matters. Details were checked about the Inner Line regulations, medical facilities in the Badrinath region and about the availability of altitude Mana porters, the Marchhas. Many lists of equipment and food were drafted to arrive at the most economical. Our final equipment ran to almost 6,000 lb. of all kinds of items. The problem of Sherpas was finalized by arrangements with the able Sirdar Pasang Dawa Lama. The Meteorological Department of Delhi gave a weather forecast for October which was most accurate and helpful. A.I.R. kindly arranged to transmit a daily forecast during the period the expedition was on the mountains. Instructions were issued to the members of the party about physical training, medical check up and personal equipment. A briefing conference was held

in Delhi in August: the team was in excellent form ready for the departure at the end of September 1959. The usual route was followed via Hardwar, Rishikesh, Rudraprayag, Pipalkoti, Joshimath, Badrinath to Mana village. The team went in three parties by bus up to Pipalkoti. The road beyond was blocked by landslides as is usual in this region during the rainy periods. The six Sherpas had come from Darjeeling direct and joined the main party at Rishikesh. From Pipalkoti the parties trekked up to Mana via Joshimath, Pandukeshwar and Badrinath, where suitable accommodation for night halts was available. This route is commonly known to pilgrim visitors from the length and breadth of the country. There are a good number of *chatties* and tea shops every three to five miles, but they start closing down above Pandukeshwar at the end of September when the pilgrim traffic thins out. In fact, for the casual visitor this is the best time of the year ; the air has a post-monsoon freshness and the Alakhananda provides water music to delight the soul. At Badrinath there is a hot spring tank which came in for much popular use: there would not be another occasion for a wash worth talking about for almost a month to come.

We finally assembled at Mana village on October 4th, as scheduled. By courtesy of the local school headmaster we were able to dump the baggage in his building as the boys were on holiday. We spent that whole day in recounting the baggage and separating packs meant for the climbers and the valley echelons. Mana, the northernmost sizeable habitation in this region, is about 20 miles south of the pass of the same name. The Alakhananda turns westwards from here, its continuation north being called the Saraswati. The village stands beautifully perched above the banks of the confluence and has a summer population of about 2,000 honest, god-fearing Marchhas whose main occupation is sheep rearing. Their equally hardy womenfolk engage in agriculture and carpet or blanket weaving. The fact that the carpet industry of Mana is already turning out attractive rugs augurs well for the future of this pretty little village.

Owing to lack of information about the state of the Alakhananda river and the possible location of the Base Camp at the confluence of Bhagirathi Kharak and Satopanth Glacier, excursions went out along both banks of the river. It was found that the northern route along the Vasudhara falls was quite unsuitable: it was longer and what was more important the porters would not agree to cross the sacred river. There were technical difficulties also in crossing such a fast stream.

The party consisting of six climbers, six Sherpas and about 30 porters finally reached Lakshmi Ban, a distance of about five miles, on the southern bank of the river. The peaks of Narain Parbat (19,570 feet) and Neelakantha were not visible, but the entire snow-capped range of Alkapuri, the proverbial home of the weather gods, stretched delightfully to the north. The sky was overcast and there was a slight drizzle. Base Camp established, we got down to sorting out rations and equipment, and to making a firm plan which had to depend on the conditions of the mountain and the weather. The next morning our joy knew no bounds as the weather had cleared completely, true to meteorological forecasts. On October 7th, some of the members who had seen the wide vista of snow and rocks a couple of miles beyond early that morning, came with their own ideas which we discussed at lunch. The bare eastern face of Chowkhamba (23,420 feet) held good possibilities. It is a high peak—one of the highest in Garhwal—and had been climbed in 1952 by a French Expedition.* The magnificent unclimbed Neelakantha dome held out its own promises and predicaments. We had to decide on one peak or the other. The ultimate decision was that one party was to proceed on October 8th for Chowkhamba, the other on October 9th for Neelakantha. Nikore had managed to procure an account of the French Expedition. Though sketchy and in French, it helped. No detailed account of the approach to Neelakantha from this side was available, and it looked like our having to pioneer for it. A couple of porters, Netra Singh and Bhagwan Singh, had been on Chowkhamba and Neelakantha with previous expeditions and they were all out to assist both parties. Finally it was decided that the Sirdar and Sherpas Phurba and Lhakpa were to accompany Chaturvedi, Chowdhury and Rawat for Chowkhamba and that Raina, Nikore and myself were to take Ajeeba and Sherpas Pasang and Norbu for Neelakantha.

CHOWKHAMBA

A forward Base Camp was established by October 10th and after two days' rest it was decided to establish Camp I on a glacier just over 15,000 feet. The condition of the mountain appeared to be entirely different from what the French account stated. There were innumerable wide and deep crevasses to cross and the avalanches that raged almost the whole time gave rise to many misgivings. Sirdar Pasang Dawa Lama with all his mountaineering experience

* Referred to in *Himalayan Journal*, Vol. XVIII, p. 108.

wondered whether an attempt to find a satisfactory route would prove fruitful. Although they were fairly well equipped for a medium kind of expedition, this climb seemed to demand much greater experience, technique and equipment. The following account comes from Rawat who suffered much through frost-bite of both feet. He lost all the toes of his stricken foot but still craves for the mountains.

On the evening of October 12th, we held a consultation with Sirdar Pasang and decided to start the assault of Chowkhamba early on the 13th. For two days we had waited for rations, particularly for sugar and kerosene. Our sugar was completely finished and we were using honey and toffee to sweeten our tea and coffee. It was a relief when Doc came up from the Base Camp with our rations. Though we had with us all the necessary mountaineering equipment, ropes, etc., we were forced to be particular about what we took with us because of weight. We left binoculars, etc., behind and did not even take the larger first aid kit with us.

On the 13th the weather was very clear, visibility excellent and the massive Chowkhamba with its dome-shaped peak looked very challenging. By 0830 hours we were on the way to the first camp with Sirdar Pasang leading. There were the three of us, Chowdhury, Chaturvedi and myself, with Sherpas Lhakpa and Phurba and five porters following. Time was passing and the sunshine was losing its warmth. We thought of establishing Camp I either on the ice-fall or at the foot of the peak below the ice-fall.

After crossing the Bhagirath Kharak moraine we reached the glacier. We walked a distance of about $1\frac{1}{2}$ miles on snow and reached the foot of the massif just below the great ice-fall. Here it was decided to send a party to explore the route forward and to find a camp-site. After about three hours the party joined us and we decided to site our camp on the glacier itself just above 15,000 feet.

On October 14th the weather was excellent. We packed our things and started out, Sirdar and myself in front on one rope, and reached the point where a rope had been fixed by the recce party the previous day. First we had to cross the ice-fall which was full of crevasses. We found ourselves on the top of the ice-fall and waited for the rest of the party to come up. Phurba, Chaturvedi, Chowdhury and Lhakpa were on one rope. Soon the whole party met and we thoroughly enjoyed the fried meat and biscuits served by Phurba. After crossing the glacier we reached the foot of a very steep portion of the massif. Though only about 50 feet high it was more or less vertical. Sirdar and myself had a go at it, the former cutting

the steps. I was keeping a careful watch on him and belaying him. He climbed half-way up and by that time the rope was finished. Now it was my turn to climb and his turn to belay. The other party joined us later having found the climb equally troublesome and tiring. This climb alone took us nearly three hours. Time was getting on and we had yet to select a camp-site. We could find no suitable place and had to climb further till we reached the side of a crevasse as the light was failing. It was at about 17,500 feet. We managed to clear space enough to pitch two tents. Hardly a foot away from the tent on one side was a deep crevasse. I was about to remove my gaiters when I discovered that they were frozen and that the buttons had become rigidly fixed. Lhakpa came to my help with a knife and a match-box. His attempts to loosen the buttons failed, and I had to cut most of them open. By then it was dark and we retired into our tents in whatever state we were.

On the 15th we got up early, about 0600 hours, had tea and biscuits, folded up the tents and started for the day's climb. The weather was excellent, though a strong breeze was blowing. Sirdar and myself roped up and started by crossing a narrow deep crevasse. About 1100 hours we reached a large crevasse and halted there for the others to join us. We held consultations about the route forward as it appeared difficult to cross the crevasse immediately ahead, and there seemed no other way up. Presently the Sirdar jumped on to the ice-wall and climbed a ridge of ice nearly six feet high by fixing an ice-piton and climbing off it. Beyond, however, was another large crevasse. He came back to us. 'Beeg deeficulty', he admitted in his usual humorous jargon.

The Sirdar and Phurba now left the rucksacks with us at one side of the crevasse. After fixing up the ropes the Sirdar came on the ridge and asked us to pass on the rucksacks. We handed across all the rucksacks and ice-axes. Then came our turn to cross. First I jumped and caught the piton at the same time catching the rope which was to be pulled by the Sirdar. The others followed. A few yards further on we came on the crevasse over which already the ropes had been fixed by the agile Sirdar. By mid-afternoon we were on the col at just over 19,000 feet altitude, where we selected a camp-site.

We had a long discussion with the Sirdar who, on the basis of his previous experiences, suggested that a straight climb to the dome could be done within a day provided we did not carry very much with us. We all agreed. On 16th morning, just before dawn, we left camp and started for the summit. There was a strong breeze but the weather was excellent. We were climbing in knee-deep snow and the

going was very hard. We soon found ourselves on the eastern face of the peak from where we could see the Parbati range and the Satopanch lake. We could even see the tiny camp of the Neelakantha expedition just a few miles across the gap that separated us. Pasang began cutting steps and we were following—two ropes with three on each.

We must have reached about 23,000 feet when daylight started failing. A strong wind was blowing and it was getting very chilly. We began to have anxious doubts since we had no tent and no food with us. Fortunately we found a crevasse which was deep and protected on three sides. We cut a large step to sit on and having roped ourselves firmly the six of us huddled together. No words can describe the agony we suffered trying to keep warm and awake for the long hours of the night. It was a terrible feeling to be both thirsty and hungry at the same time. Outside the moon was shining brightly. When I got tired of feeling terribly cold despite the forcible beating of the body initiated by the Sirdar and continuous stamping of feet, I came out of the crevasse to admire the panorama. It was a grand sight and helped to keep our minds off the fear of disaster. Occasional avalanches rolled down at fairly close quarters and they also in a way helped to distract our attention. We continued to swing our hands and to beat our bodies in an effort to keep warm and awake. Both were essential if we were to avoid frost-bite. I must, however, have fallen asleep for a while.

The dawn gave us new life. I felt my feet extremely cold, but enthusiasm for the forthcoming assault was too great to let me think of anything else. Almost immediately we were out of the crevasse, heading upwards in two parties. It was a straightforward climb and in a couple of hours we found ourselves on the summit. Though exhausted, we felt supremely elated as we held out our fluttering flags and donned them to the axe which we stuck hard into the ice. We felt utterly lost in thought during the 20 minutes we stayed there, admiring the scene. We could see the Mukut Parbat, Neelakantha and a vista of peaks, as they seemed in their different colours to greet our victory.

There was no time to lose as we had to get down to Camp III. Almost everyone was sliding down completely exhausted. We had no strength to retrieve the ropes which had to be left behind. We found ourselves in camp just before dusk, gloating over tea, biscuits and whatever eatables we could lay our hands on. We almost poured ourselves into our sleeping-bags. My feet were feeling cold, and in the middle of the night I pushed them inside Chaturvedi's spare bag, which gave me some comfort. In the morning I felt a strong feeling

as of swelling in my numb toes. Chaturvedi, Phurba and Lhakpa had similar feelings. After a quick meal we started down, as early medical assistance was obviously necessary.

NEELAKANTHA

Our party was making almost identical progress, starting from Base Camp. We skirted the northern edge of the Neelakantha range and established a forward camp at Majna Chakratirtha. Although it appears on the survey map as a location, there were no signs of habitation. The going was fairly straightforward except for the tedium of calculated steps on the thin edge of Satopanth Glacier. The Marchhas appeared to move with comparative ease. We were at the base of the mountain of our choice. A 60 degrees steep moraine separated us from the tongue-like glaciers that hung about the dome face. The summit approach which we were about to probe had never been described by any expedition. The south-eastern approaches had time and again been ruled out for obvious reasons. This was the only route left to us and we had to make the best of it.

After the tough climb, Nikore and I recced the top of the steep moraine while Raina went out to collect some geological data. On the 11th, we established Camp I among the glaciers and séracs around the 15,500 feet level. The grand mound of Neelakantha towered above like a colossal tiara of gems. We seemed to be in for much rock work. We lazed and spent hours scanning the rock-faces and an ice-wall that swept right across the dome, with the help of binoculars. To the amusement of others I sketched the mountain, marking the likely routes.

There was a col right ahead of our camp and Raina seemed to like an approach to the top from there. He went with Pasang Sherpa to try the direct route, but terrain is often illusionary at altitudes, for we discovered what appeared barely a quarter mile of trouble-free snow took almost four hours to cover. On Raina's return after much deliberation we decided to give up the col and to try an approach by the left side. The next day Nikore and I went out to confirm our hopes, skirting the glacier face at 16,000 to 17,000 feet altitude. The ice appeared uncertain but the rock, luckily for us, gave good holds. We got to a tiny camp-site on the rocks about 17,000 feet soon after midday of the 13th. We could hardly sleep at Camp II. Avalanches raged on either side of us by day and night. We felt it would be something of an anti-climax if an ice ridge dropped on our two tents in the middle of the night. Thus

consoled we rested for a day and listened to scintillating songs by Raina.

Prospects for the future were bleak. Every slope appeared too steep and risky for the kind of mountaineering we had in mind. We continued making sporadic recces, moving across steep glaciers and some of the largest boulders I have stepped on. We found a site even smaller for a tent and a half a few hundred feet further up. The site was rocky and we slept literally on a bed of points. Altitude was beginning to affect some of us and there were complaints of headaches and sleeplessness. Doc's pills were there to serve as a last resort. There were crevasses round about and many avalanches, and we thought it a rather uninviting place altogether. We called it an intermediate camp. For the first time the magnitude of this face came into view. The ice-wall was not only steep, but it encircled the entire northern face. It must have been over 500 feet high in places. A much wider glacier swept steeply down on the left. Boulders dropping off the ice-wall came down on the glacier face almost every quarter hour. In these frightful circumstances, the first portion of the route over the left or eastern summit ridge, which I had banked on, had to be given up. We decided on the other way across the rock hill that lay on our right.

Raina and Ajeeba carried out a reconnaissance of the rock hill. It fell to Nikore's lot to go up next day with Sherpa Pasang to fix ropes. It took them almost the whole morning to do this and to go up a few hundred feet of another glacier of frightening steepness at the bottom of which lay Satopanth, a straight slide of almost 6,000 feet. A tiny camp-site was found on a bit of rock tucked in between two forks of a glacier.

It was October 17th and we were about 19,000 feet high ; higher than any camp altitude reached before on this peak as we understood from available accounts. The sun was hidden most of the day. The minimum temperature was below 10 degrees of frost.

The permanent ice-wall, the great barrier, appeared to overhang immediately above, shedding its surplus bulk everywhere. Raina went out to find a camp-site nearer the ridge. It was hard going. Ropes were fixed. The job was partly done when dusk fell and the party returned by the help of starlight on the snows.

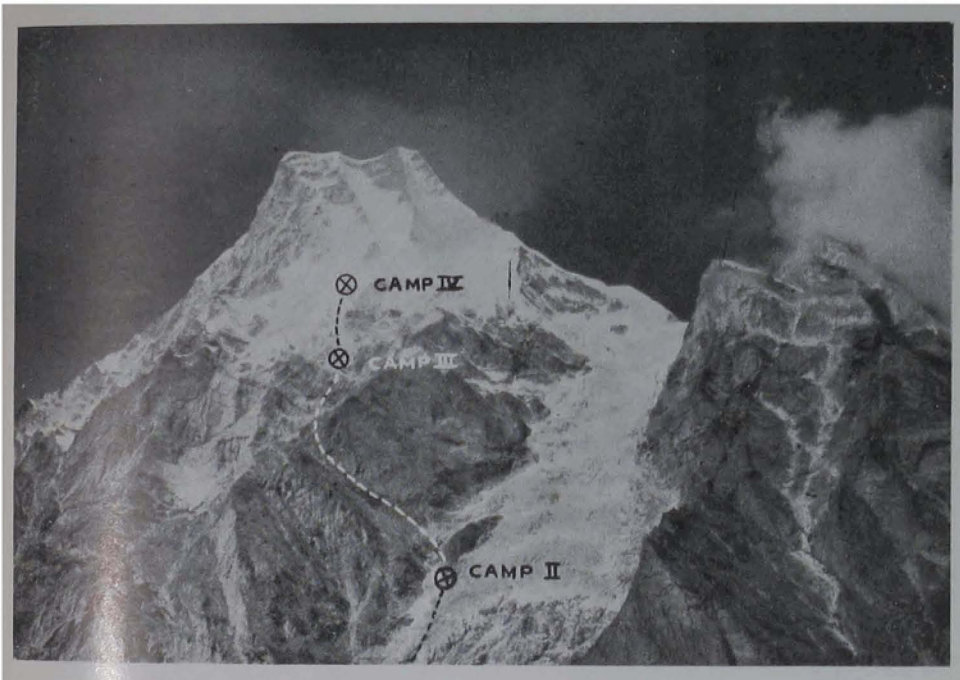
The same day I received news from Doc Bhagwanani of Chowkhamba I having been climbed by the other party ; we could clearly see the large massif but the party's movements were hidden behind the north-eastern ridge. Nor could we contact them over the walkie-talkie as the distance was over seven miles. But we were more than satisfied ; one of the highest peaks of Garhwal in the bag and the

unclimbed Neelakantha face scaled to a considerable height along a possible route to the summit.

Raina and Nikore had gone further up the glacier and established Camp IV at about 20,000 feet, almost at the threshold of the notorious ice-wall. But their final effort to climb it was thwarted by a blinding snow-storm that swept over the entire range. Raina and Pasang Sherpa had managed to go well above 20,000 feet before turning back, leaving a couple of ropes on the ice-face. Whether the party would have been able to complete the climb to the summit from Camp V on the ice-ledge had it not been for the blizzard no one can tell. It was clear that the party must now return to Base Camp. The winds that raged above 14,000 feet almost to the point of uprooting our tents clearly brought our expedition to a close.

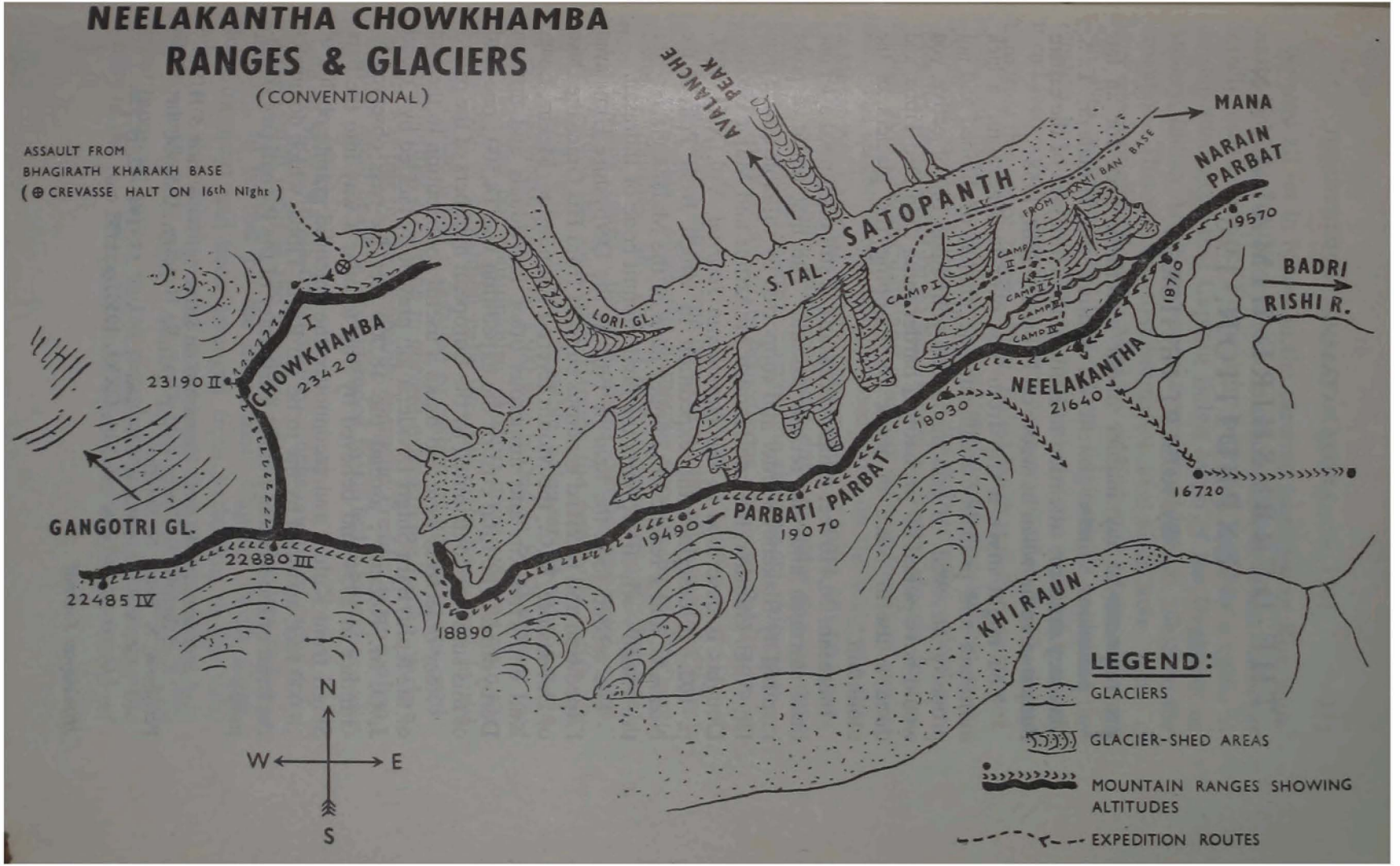
No words can describe adequately the faithful service rendered by the Mana porters. Six of them who risked their lives in attempting snow work up to 19,000 feet and beyond were duly rewarded. Their aged leaders, Netra Singh and Bhagwan Singh, deserve special mention. The tough forty-five-year-old Sirdar Pasang Dawa Lama and his colleague Ajeeba need no special commendation, for their valuable guidance and service to the expedition remain a fond memory to all who were associated with them.

We felt grateful to the Meteorological Department and All-India Radio for regular and accurate weather forecasts, to the Badrinath Temple Committee, the local police and other State authorities for their friendly co-operation in meeting our day-to-day demands.



NEELAKANTHA, 21,640 FEET

CHOWKHAMBA BASE CAMP, 12,000/13,000 FEET


NEELAKANTHA CHOWKHAMBA
RANGES & GLACIERS
(CONVENTIONAL)
ASSAULT FROM
BHAGIRATH KHARAKH BASE
(⊕ CREVASSE HALT ON 16th Night)
AVALANCHE PEAK
MANA
NARAIN PARBAT
19570
SATOPANTH
VASUKI BAN BASE
FROM
CAMP I
CAMP II
CAMP III
CAMP IV
S. TAL
LORI. GL.
18710
BADRI
RISHI R.
I
CHOWKHAMBA
23420
23190 II
NEELAKANTHA
21640
18030
16720
GANGOTRI GL.
22880 III
22485 IV
PARBATI PARBAT
19490
19070
18890
KHIRAUN
N
W
E
S
LEGEND:
GLACIERS
GLACIER-SHED AREAS
MOUNTAIN RANGES SHOWING ALTITUDES
EXPEDITION ROUTES

THE DERBYSHIRE HIMALAYAN EXPEDITION, 1961

By ROBERT PETTIGREW

IN response to my inquiry about a suitable area for an impecunious climber intent on visiting the Himalaya, T. S. Blakeney drew my attention to Kulu in the Himalaya of the eastern Punjab of India when he wrote on February 28th, 1958:

'You might make a trip from Tos over to Andrasau,[1] a high mountain and probably a difficult one, that is unclimbed and not properly surveyed. If you made this your main big objective, you would have pulled off probably a harder thing than Deo Tibba, and done a useful piece of work by mapping the glaciers of the mountain.'

Indrasan, 20,410 feet (alias Andrasau), is still unclimbed after one brief skirmish and one serious assault. The first tentative probe inspired by Blakeney's letter and supported by valuable advice from Dr. A. E. Gunther, the late Hamish McArthur and Major Geoffrey Douglas is described in the *Himalayan Journal*, Vol. XXI, 1958, p. 102. It describes the expedition in which Basil Poff of the N.Z.A.C. and I reached the upper névé of the Malana glacier—the third shelf—which supports the final summit cone of Indrasan.

The second took the field in 1961 as the Derbyshire Himalayan Expedition and received generous support from His Grace the Duke of Devonshire, M.C., the Mount Everest Foundation, Messrs. Longland and Hodgkin and numerous other individuals and firms in Derbyshire. The total cost of the expedition was £4,500; one-third of this sum was contributed by the European members of the party.[2]

Other objectives were: to make a useful contribution to the map of the Kulu/Bara Shigri Divide, a job previously tackled by Colonel J. O. M. Roberts[3]; ascend the 18,000 feet Ice-pass observed by Gunther in 1954 and believed by him to offer a way into the Bara Shigri from Kulu[4]; and reconnoitre the splendid granite obelisk of 18,000 feet, assumed by me to be Ali Ratni Tibba, which dominates the head of the Malana nullah, a tributary of the Parbati (*see* sketch-map).

[1] Indrasan, 20,410 feet. Unmarked on Survey of India sheet 52H/SW.

[2] J. Ashcroft, D. Burgess, D. Gray, R. Handley, T. S. Panther, R. G. Pettigrew, S. Read, N. Smythe.

[3] *A.J.*, Vol. 52, 1940, p. 233, and *A.J.*, Vol. 53, 1941-42, p. 323.

[4] *Geographical Journal*, Vol. CXXI, 1955, p. 117.

We were all set to follow in the carefree footsteps of Kim without the hint of surveillance which an official liaison officer, however friendly, usually brings. Forty-eight hours off Bombay a cable to the ship announced that Captain Balgit Singh of the Regiment of Artillery, Indian Army, was appointed official liaison officer to the expedition. This was our first intimation of a ninth man. Later a letter which originated in the Ministry of External Affairs on April 29th, 1961, was forwarded by air from England. It explained the situation, but had been sent by sea mail and the expedition sailed from Liverpool on May 5th! There were, we decided, two consolations from this appointment. First, Balgit Singh rapidly became one of us and made a significant contribution to the survey work. Second, we were sure that the fact of his appointment would persuade the powers-that-be to deal kindly with our request for exemption from customs duty and sales tax on our food and equipment. The second shock, administered close on the first, was that the Ministry of External Affairs, Government of India, has no power to exempt expeditions from customs duty or sales tax as suggested in the Mount Everest Foundation document: 'Baggage—Conditions to be observed by expeditions going to Pakistan and India.'

Any concessions must come direct from the all-powerful Central Board of Revenue, where our numerous appeals directed to such diverse authorities as 'The Chief Controller of Imports', etc., eventually ended. Perhaps slight concessions were made, but we boarded the Pathankot Express the poorer by £400. Of this sum £100 was a non-recoverable payment of sales tax on our consumable stores. The £300 was placed in bond against the re-export of our non-consumables. Almost more wearing than the handing over of expedition cash was the eight-hour vigil in the Customs House whilst a detailed re-costing of our gear was made by the authorities according to current prices in the Indian market. Our case was put by the admirably energetic Freddy Buhariwallah, a shipping agent heartily recommended to all India-bound expeditions.

Late on May 28th six travel-stained Englishmen descended from the dust-coated train at the terminus of the broad gauge railway, Pathankot, to be met by the immaculate Captain Balgit Singh. Motor transport had been arranged from Pathankot to the Beas valley in Kulu as being more convenient than the narrow gauge railway to Jogindernagar. Adding forty gallons of paraffin and several thousand rupees to the paraphernalia now threatening the stability of the two Mercedes short wheel-base trucks, we roared off

through the Pathankot bazaar *en route* for the tortuous but admirably engineered road through the gorge of the river Beas on May 29th.

Our enthusiasm for the mountains was regenerated by the sight of the glittering ribbon of snow tacked on to the green-mantled slopes of the Dhaula Dhar range which forms the east wall of the Kangra valley and is now skirted by the road to Kulu, truly used by 'All castes and manner of men'. The town of Mandi is memorable for a shaky suspension bridge over the turbulent Beas and a marriage feast which brought atmosphere, but banished sleep, from the Dak bungalow in which we broke the journey for one night.

Forty miles on, up the Beas at Nagar, another bridge marked our disembarkation from mechanical transport 12 miles south of Manali, and the acquisition of 57 ponies, 11 muleteers and, not least, our six Ladakhi porters headed by Wangyal, the Kulu veteran. John Banon, nephew of Major Henry Banon who is locally revered as 'Chini Sahib'—unfortunately taken ill with a stroke at the time of our visit—came down the valley to make arrangements for our mail and to speed us on our way. He brought with him Renu Ram, a famous shikari who accompanied Major Geoffrey Douglas and Hamish McInnes on their Kulu yeti-hunting expedition of 1957-58. Renu very kindly offered to see us over the Chandra Kanni Pass, 11,617 feet, as far as the site of Base Camp in the Malana nullah.

The next day, May 31st, Burgess and Read equipped with large black umbrellas set off up the Chakki nullah, opposite Nagar bridge on the east side of the valley, to investigate disquieting reports about the impassability of the passes even at this date when all the winter snow should have melted quietly away. Several mountaineers were of the opinion that we were rather late for this region of the Himalaya. However, Colonel Roberts has since told me that his preference would be for the month of June: Had we gone earlier it is certain we would have met with heavy additional expense getting our stores over the snow-bound passes and it is probable that we would have been valley-bound and bankrupt.

Meanwhile everyone fell to converting the shipping crates into pony panniers—each pair to weigh 120 lb.—to be carried at a cost of seven rupees per day as against five rupees for porter loads of 40 lb. This represents a saving in transport charges of 50 per cent in this region of the Himalaya provided, of course, the approach is negotiable by ponies. Burgess and Read returned on June 2nd full of pessimism about the route. But the caravan was loaded and impatient and the same day we set off for the Chandra Kanni, some 7,000 feet and eight miles away.

The Chakki nullah is memorable for its magnificent pine forests and lordly situations offering unforgettable views over the well-cultivated Beas valley. The first camp-site—half a day short of the expected distance because the leaders had lost patience with the pony wallahs and had got themselves lost—was opposite the terraced village of Nagar, an ancient settlement from which the Rajahs and later the British once ruled Kulu. By noon on June 3rd we reached the snow-line bordered by clumps of rhododendrons near which we made camp. The track now disappeared beneath drifting snow which filled the terminal basin of Chakki nullah and lapped up against the crest of the spur dividing the Malana from the Beas. The pony wallahs were unwilling to risk their ponies but each day's delay added £30 to the cost of the caravan. We agreed to spend June 4th preparing the route by digging trenches with the snow shovels, whilst at Renu's suggestion a runner was despatched to the nearby village of Phulinga to call up reinforcements for our manpower. At dawn on June 5th the caravan crossed the floor of the basin, floundered up steep slopes to the rim and then came to a full stop at the prospect along the crest.

On the east side the snow had long since melted and the springy turf was revealed in vertical slopes which fell uninterruptedly into the tantalizingly close Malana nullah. The true pass, a mile to the north, could only be reached along the west or Chakki side of the crest and here the track was again covered by massive steep-angled drifts of hard snow lying the whole length of the precipitous wall. The unhindered passage by ponies could only be achieved by removing the panniers, which would be carried across the pass by manpower, and leading the animals across unladen. As temporary porters the men of Phulinga were excellent, cheerfully negotiating the steep drifts in bare feet, bearing 60 lb. boxes on their backs by means of thin rope loops. Half a day's work earned them five rupees each and they saw us, a reloaded caravan, on our way into the Malana nullah with happy grins and waves. Returning in the monsoon rain along the same track now reminiscent of the Heather Terrace on Tryfan, it was difficult to recall the scene of the distressed but tenacious ponies.

Enclosed in great forests of blue pine and deodar, spruce and fir, with occasional patches of horse chestnut, maple and walnut, the column wound up the Malana nullah which sweeps grandly round to the snout of the Malana glacier, for another two days. The second camp-site in the nullah on a promontory above the swirling glacier torrent became ' Tick ' camp, since previous inhabitants literally got under our skins! The ponies' last day, June 7th was also the most

arduous because, in its upper reaches, the valley narrows to a deep gorge and we had planned to place Base Camp at the highest level site on the west side of the river—the true right bank. The Ghaddi trail climbs steeply to gain a shoulder high above the chaos of torrent and moraine. Here, by a colossal perched block at 12,600 feet surrounded by flowers and partially beneath the shadow of Ali Ratni Tibba, we made our Base Camp. Seven miles and 8,000 feet lay between us and the summit of Indrasan. In the five-day journey from Nagar bridge only one item had been lost from a pony's back —a bale of sisal rope of which we had plenty. The sturdy stone bivouacs of the nomadic shepherds were requisitioned for the stores and one made an excellent kitchen which was soon occupied by Jigmet.

Next day, June 8th, Renu and his retinue began the descent to Manali where he promised to meet and direct Smythe and Ashcroft, who were due to join, and make arrangements for a return pack train on July 20th. Handley and I left the same day to reconnoitre a way on to the glacier which is the main outlet for the vast Malana névés.

Indrasan, 20,410 feet, and its near neighbour Deo Tibba, 19,687 feet, comprise the superstructure of a triple-decked ice-cap as seen from the Malana nullah. The plan was simply to put a camp on each deck or shelf until we were in striking distance of the summit cone of Indrasan, some 2,000 feet in height. From the upper plateau we also expected to climb Deo Tibba by the route of the first ascent (from the north-west), for an end-on view of Indrasan's west ridge as well as pleasure, photography and acclimatization. Complications have arisen on account of the two distinct summits rising from a common plateau. Writing in 1914, Lt.-Col. the Hon. G. C. Bruce[5] describes an attempt on the Deotibi ridge from the Hampta nullah by his Swiss guide, Fuhrer. He and a Gurkha orderly, Lallbahadur, got to the ridge at two points, 'after some rather exciting work'. Bruce goes on to describe the whole ridge leading from Deotibi to Penguri (?) as wonderfully fine: 'The ice scenery is of a really high order, with masses of hanging glacier.'

In 1922 H. Lee Shuttleworth, I.C.S.,[6] when describing the Malana nullah refers to Indrasau, a 20,417 feet peak at the head of the Malana glen on the Beas/Chenab Divide. Accompanied by a different Lallbahadur (one assumes!) Colonel J. O. M. Roberts[7] tried to get to grips with Deo Tibba in 1959. He reached the second shelf

[5] Kulu and Lahul. By Lt.-Col. the Hon. G. C. Bruce, M.V.O. London, Edward Arnold, 1914.

[6] *The Geographical Journal*, Vol. LX, No. 4, October 1922, p. 241.

[7] *A.J.*, Vol. 52, 1940, p. 233.

or lower névé from the Jagat Sukh nullah, but found the route to the summit barred by the transverse steep supporting wall of the third shelf. Returning to Manali, Roberts next gained a view of Deo Tibba from the Hamta nullah. 'The survey map gives the height of Deo Tibba as 19,687 feet and of a mountain to the north as 20,410 feet. This mountain is much less impressive than Deo Tibba, and there certainly does not appear to be a difference of over 700 feet in their heights.' The 'mountain in the north' is, of course, Indrasan. Charles Evans[8] followed Roberts's and Peck's routes to the second shelf via the Jagat Sukh nullah and from there tried two lines on the ice-crowned wall of the third shelf, Piton ridge and Watershed ridge. Both failed to yield a route on to the upper plateau. In a brief reference to de Graaf's couloir, Evans describes it as, 'Uninviting, but perhaps worth a trial in certain snow conditions'.

E. Peck,[9] in a description of his observations from the second shelf at a height of 17,155 feet, refers to 'The rocky spires of the north summit, presenting an inviting bare red-rock surface in contrast to the icy gullies of the Piangneru (west) and the Hamta (north) faces.' Is it possible that Bruce wrote Penguri for Piangneru ?

Indrasan finally gets a separate identity from a composite article in *The Mountain World*, 1954, p. 218: 'It is a pointed rock summit vaguely resembling the Zinal Rothorn, and probably attempted by Fuhrer in 1912. On the Survey of India $\frac{1}{2}$ inch sheet 52H/SW it remains anonymous as height 20,410 feet.'

I find it difficult to credit that Fuhrer got anywhere near it. He is far more likely to have been involved seeking a route to the 18,000 feet col between Deo Tibba and Indrasan via the Piangneru face. But this was not the last word. Professor Kenneth Mason lumps the two together again. Writing of the Pir Pinjal between the river Sutlej and the river Kishtwar, he mentions many rocky and icy peaks including the snow dome of Deo Tiba (note spelling), 20,410 feet, visible from Simla, seventy-five miles distant. Later, when describing Kulu, he writes, 'Some of the glaciers are still only roughly sketched, and excepting Deo Tiba's two summits (19,687 feet and 20,410 feet) little has been attempted.'

To describe the mountain Indrasan as merely the north summit of Deo Tibba is to describe Lliwedd as the south-east summit of Snowdon. It also gives a false impression of the topography and scale of the upper névé, the third shelf. Every party that has stood

[8] *H.J.*, Vol. XVII, 1952, p. 118.
[9] *H.J.*, Vol. XVII, 1952, p. 125.

in the col at 18,000 feet has unhesitatingly conceded a separate identity to the fine mountains on either hand.

Having located a suitable site for Camp I, Handley and I returned to Base Camp to prepare for full scale ferrying journeys which were to start immediately. Panther was very breathless and complained of feeling exhausted. We put this down to an acclimatization failure since he had been ill throughout the march-in. However, on June 9th whilst ferrying loads to Camp I he collapsed on the glaciated slabs just short of the snout of the Malana glacier at about 13,000 feet. He complained of severe chest pains, had difficulty drawing breath, and I estimated his pulse rate to be 180 to the minute. After a short rest he recovered sufficiently to move slowly back to Base Camp with the assistance of a porter. A few days later he decided, on his own initiative, to descend to Manali via Jari and Bhuin. After an arduous passage of the Malana gorge he reached Bhuntar and from there took plane to Bombay. He then returned to England. Another early casualty was Captain Balgit Singh. He twisted his knee during the descent from Camp I on June 10th. Fortunately for the strength of the party, reinforcements were arriving in Kulu in the persons of Ashcroft, the surveyor, and Smythe—the last named joining for a brief period of local leave.

Pathfinding on the gently inclined Malana glacier—the first shelf—Handley and I found easy going on the coverlet of winter snow which still persisted in the main stream of the glacier. Veering off to the west the route to the second shelf took a tributary ice-stream flowing from the lower névé containing the 'Dhunhagen Pass',[10] first reached by Colonel Roberts in 1939. A steep little ice-fall provided interesting diversions before we emerged on the undulating surface of the lower Malana basin at 16,000 feet, three years later to the very day that I had reached this same place from the Jagat Sukh nullah with Basil Poff for an unsuccessful attempt on Deo Tibba.[11] Here Camp II of the current attempt was established. It was later to be shifted ½ mile to the west opposite the lowest spur of Piton ridge. We descended the same day to Camp I, where successive ferrying parties had begun to stockpile, and we continued through to Base Camp. A large caravan returned over the glacier on June 11th, spent the night at Camp I, then consolidated Camp II at the new site by the foot of Piton ridge on June 12th.

From the second shelf there are three feasible routes up the transverse supporting wall to the final plateau. First, by the extreme

[10] *A.J.*, Vol. 52, 1940, p. 235.
[11] *H.J.*, Vol. XXI, 1958, p. 102.

western edge of the upper shelves, known as Watershed ridge, which was first climbed in 1954 by Herr Rott, after several parties had observed and recorded it as a possibility since 1939. Second, moving east across the second shelf, by a great couloir which was used by Mr. Jan de V. Graaf's party when he made the first ascent of Deo Tibba in 1952; and which is thought to have been used by three Italian prisoners of war on parole leave (Bianchini, Fusellia and Mamini) attempting Deo Tibba in 1945 when the highest point reached was the southern edge of the third shelf immediately above the couloir, the Punta San Marco, 18,076 feet. The couloir was also descended by Basil Poff and me returning to the second shelf after climbing Watershed ridge in 1958. Third, on the extreme eastern side of the massif by the main ice-fall of the Malana glacier caused by the upper névé spilling into the valley glacier. There is no record of an ascent of the ice-fall. The least hazardous of the three routes seemed to be the couloir, which was then chosen as the ferry route and main avenue between camps on the second and third shelves.

Burgess, Gray and Wangyal tackled the couloir for the first time on June 13th and succeeded in establishing Camp III—a four-man Hillary tent on the third shelf at 18,000 feet. From the route between Camps I and II they appeared as minute specks moving infinitely slowly two-thirds of the way up the couloir. Cloud and a rib of rock soon hid them from view, but they seemed determined atoms. We discovered their success on June 14th on arrival at Camp II with fresh supplies. However, they were unhappy about the practicability of a route which had taken them nine hours to climb and which ranged in angle from 45 degrees at the foot to 65 degrees at the top. Recalling my descent of the couloir in 1958, Handley and I next approached via Piton ridge. We climbed steep snow in the form of a ramp on the east side of the ridge to gain the prominent notch which is marked by a great gendarme—noted by de Graaf. Hence we entered the couloir approximately half-way up by contouring in from the left-hand west side. This proved a definite psychological aid and the climbing time was reduced to about six hours. Unfortunately Handley and I blotted our copy-books by spending the night in the skeleton Camp III, 18,000 feet, without sleeping-bags or food. We had taken refuge from a short but violent snow-storm and, since it got dark, we had to stay and make the best of it. To keep warm we pitched a Black's Mountain tent inside the four-man Hillary and found this experiment reasonably successful. One drawback was that Ang Chook never really regained his good humour because of the fumes he imbibed whilst keeping a primus stove alight all night.

Early on June 16th Burgess, Gray and Wangyal anxiously climbed the couloir to locate us. Afterwards we fixed a 200-foot length of fixed sisal rope hanging down over the route in the couloir from the rocks at its head. June 17th was spent resting on the second shelf and plans for a reconnaissance of the west ridge of Indrasan were worked out. The next day everyone climbed the couloir to install Burgess, Gray and Wangyal on the upper plateau.

Camp IV in the 18,000 feet col between Deo Tibba and Indrasan, close to the foot of the west ridge, was occupied by the recce party on June 19th ; in worsening weather conditions they made the fifth ascent of Deo Tibba, 19,687 feet, on June 20th. The weather, which had looked doubtful for two or three days on account of the rich colouration of the southern sky, broke completely during the night of the 20th and we were confined to our respective camps by heavy snow-falls for five days. Unless future parties on Indrasan can be equipped with walkie-talkie radios (we could not afford them) there will always be the danger of complete isolation owing to the easy failure of normal communication between the second and third shelf. Life at Camp II dropped to a low ebb as each amusement was exhausted and we were reduced to playing 'Battleships'. We were fairly certain that the outpost at Camp IV would be similarly placed but laid plans to try and reach them if, after seven days—the estimated limit of their food and fuel—they had not withdrawn down the wall.

During the early evening of June 24th a faint shout brought us rushing from the tents, looking upwards at Piton ridge. Just discernible through flurries of snow were three tired muffled figures descending doggedly through the thigh-deep stuff. They had beat a successful retreat down the couloir which, in places, was chest deep. The tension broken, we spent a riotous evening over a bottle of brandy, celebrating their safe return.

Heavy snow-falls over the last few days made avalanches imminent, the team was jaded through inactivity, and we agreed to withdraw to the foot of the glacier leaving the camps intact. The evacuation took place on June 25th.

Having taught the Ladakhis to play cricket in the two-day rest, Burgess, Read and I with four porters on June 28th found an improved route high on to the Malana glacier by contouring the great spur on its true right bank. We ascended to Camp II the same day. That night an intensely brilliant moon gave light for the remainder of the team to wearily join us. At dawn on June 29th Burgess and I with four porters were plodding up the steep ramp which led from just above the site of Camp II to the breach in Piton ridge. Here we

rested before the flog of the couloir climb. Steep slopes fell away from the contour line to form the left wall of the couloir. The saving feature of the great gully was the little rock outcrop on the left margin which enabled us to break the ascent into ' legs ' and take a breather, under shelter, from the hard work.

A deep black groove scored in the bed of the couloir was evidence of a fairly regular bombardment but down a well-defined line which, once crossed, could be avoided. More difficult to foretell was the probable course of several giant Damocletic icicles which overhung the right side of the couloir. On this occasion we crossed the avalanche trench one at a time without incident and soon gained the far side of the route. After $1\frac{1}{2}$ hours on snow of mixed consistency we scrambled thankfully on to another outcrop and rested there whilst Burgess looked in vain for the fixed rope—buried under last week's snow-fall. After 200 feet he located it and extricated it to the relief of a tired party. The funnel-shaped upper section of the couloir consisted of new snow which gave good steps but the leader grew impatient, veered left and tackled the cornice direct. Standing on the Punta San Marco, a few yards away from Camp III, we were once more in striking distance.

Chosfel became ill and appeared to suffer violent head pains. We were nursing him when the rest of the expedition arrived—and brought with them a deterioration in the weather. When Basil Poff and I reached the southern edge of the third shelf on June 11th, 1958, we failed to grasp the scale of the plateau stretching across to Indrasan. It is $2\frac{1}{4}$ miles wide and, in bad conditions, a journey across it can be arduous and exhausting. So we found it on June 30th. The going was terrible, a light crust which broke frequently jarring knees and reducing a purposeful march to a humiliating flounder. We cursed freely and it seemed weary hours before we reached Camp IV. It was planned that Burgess and Gray should go for the west ridge on the morrow, whilst the new arrivals at Camp IV should climb Deo Tibba.

The latter were away at 5.30 a.m. on July 1st, aiming across the plateau at a conspicuous broad snow bridge over the first bergschrund. Beyond, the slope steepened up to another great crevasse. Detouring and bridging we worked out across the face until we were out of range of the ice-cliffs immediately below the summit and gaining on the north-west ridge. This bore us speedily to the plateau-like summit and gave spectacular views of Jabri, Allaini and Piangneru nullahs. From the last named it is possible to reach the Hamta Pass by which several parties have tried to prospect a route to Indrasan from the north. Only Hamish McInnes is reported as

holding out some hope for this approach. Attaining the summit of Deo Tibba was the fulfilment of a three-year ambition for me. The aneroid barometer now read 19,850 feet, but a storm was brewing up and after a hasty round of photography we descended to Camp IV in half an hour.

At 3 p.m. Burgess and Gray returned from the west ridge of Indrasan. They had reached a point half-way along the ridge and found the climbing severe. The switchbacking progress over the numerous steeple-like gendarmes—forty in ½ mile section of ridge—was especially wearing. However, they were anxious to make another attempt the next day. It was arranged that, as an alternative, Read and Handley should seek a route on to the east ridge, whilst I should photograph several panoramas from our camp. Meanwhile, the rest of the expedition was deployed along the string of camps since Ashcroft and Smythe had now commenced the plane-table survey from Camp I on the Malana glacier. The west ridge path-finders descended the steep snow tongue from the crest of the ridge at 4 p.m. The eight hours' climbing—which had almost exhausted them—was alternately rock and ice. Moreover extreme difficulty, often encountered along the crest of the ridge, had forced them alternately on to both north and south faces of the mountain. Despite a swifter pace than the previous day they had halted at a point on the north face less than two-thirds along the ridge. The climbing was of such difficulty that they could not envisage our Ladakhi porters, or even ourselves, carrying loads along it for additional camps or bivouacs. Read and Handley reported that a steep chimney on the south side of the east ridge appeared to be the only weakness by which the crest of that ridge might be gained.

July 3rd dawned fine. We attacked the shadowed south wall of the east ridge by way of the sugary snow slope falling two hundred feet to the third shelf from the foot of the earmarked chimney—which overhangs at its base. Read led off to a stance at the foot of the right retaining wall, and this shortly accommodated Handley and me. Read climbed on, chiefly by bridging, until 20 feet higher he met the overhang. Beyond this the difficulties became severe. Read here inserted a piton and draped a fixed rope down the lower section of the chimney. The piton gave very little assistance to the strenuous swing required to overcome the bulge and re-enter the chimney. Eventually, after a good tension pull on the rope, Read surmounted the overhang and gained the uneasy interior of the ice chimney. Fifty feet higher he transferred with great difficulty to the left retaining wall, making use of the now disintegrating snow at the back of the chimney. Now we were reunited but further probes by Read

were very discouraging. We had taken six hours to climb 200 feet. This rate compares well with the reported times of three Italian climbers who visited Kulu in the same season but operated on the eastern margin.[12] They made the first ascent of the Kulu Makalu, 28,800 feet, with ridges identical in nature to those of Indrasan. To avoid benightment, which was their fate, we abseiled off in two stages using the fixed ropes already in position, which were left for the other two. If their progress was good further supplies would be ferried up from Camp II.

Handley and Read were first away on July 4th on a ferrying mission via the couloir, whilst Burgess and Gray set off for the east ridge and I arranged for Camp IV to be struck and pitched in a more accessible position for the east ridge. Before the camp had been re-sited the pathfinders returned empty-handed. They were convinced that Indrasan offers no easy alternative route to the summit via the east ridge. The only route which would seem to offer any hope of attaining the summit would be a frontal attack in a diagonal line, utilizing the tilt of the strata before taking to the steep snow of the south face. As this is continually swept by avalanches from a calving hanging glacier directly below the summit, only an assault by night would be feasible.

Indrasan had beaten us, and it was a morose party which sat down on rucksacks to eat a frugal lunch before quitting finally the third shelf. The couloir was still menaced by the gigantic icicles so it was a taut, carefully swift plod with top-heavy rucksacks to the traverse of the stone chute area. We lined up on the right-hand side so as to cross with the least delay. Half-way across Burgess called a warning to Gray, who was leading, as two boulders whirred down on him. Retaining his axe he dived to avoid the first, and managed to arrest his slip on the snow. Recovering he was barely able to throw himself the other way to dodge the second, which struck his axe and bowled it down the slope. He slid down the snow until the rope tightened and he was held, unhurt, by Jigmet. Nothing more fell during the few minutes it took to cross to the shelter of the rock outcrop. By traversing a steep bank the col was gained and a rapid descent made to the friendly amenities of Camp II.

Here we found that Wangyal was nursing Chosfel who appeared to be mentally ill. He was unfit to carry loads and seemed determined to do himself a serious injury. Striking Camp II strained our resources to the limit and the Europeans descended with unaccustomed weights of 80 lb. whilst the Ladakhis stoically bore upwards

[12] *American Alpine Club Journal*, Vol. XIII, 1962, p. 275.

of 100 lb. A cache of abandoned food boxes crowned with a flag in a nest of sisal rope gave our late camp the air of an Antarctic food depot. The last man of the last rope, ' Doc Sahib ' (Gray), had several harrowing experiences since Chosfel repeatedly fell down in delirium and, at one stage, tried to drive the pick of his axe into his head. By dramatically diving on him and wrestling in the snow Gray both disarmed and subdued him. But the descent became prolonged and awkward since Chosfel moved like a sleep-walker even in difficult ice steps. Below Camp I we cut across the chaotic debris of a mighty rock-fall to contour easily on to the grassy slopes leading to Base Camp.

Until July 9th we languished at the base enjoying the flowers and the fried liver of the late camp mascot, a sheep, despatched, butchered and cooked by the Ladakhis. Chosfel recovered very quickly but it was obvious that he could not take part in the second half of the programme.

The party divided—one half to carry out a plane-table survey, col search and climb on the Bara Shigri/Kulu Divide ; the other to reconnoitre the virgin peak we suppose is Ali Ratni Tibba and its neighbouring aiguilles.[13]

Ashcroft, Burgess and I, with Jigmet and Ang Chook, took the Malana glacier to a point just above the first ice-fall. From here Ashcroft and Ang Chook commenced to climb the col to the east with the intention of starting the survey, whilst Burgess, Jigmet and I diverged to forage for supplies in the old Camp I.

It proved impossible to take a direct line from the old Camp I off the edge of the glacier towards the col leading into the Tos nullah. Eventually we located an easy ice spur which bridged the awkward margin and landed us on steep ground beneath the col. During the ascent, looking back, we obtained some striking views of the ice avenue to Indrasan. Breasting the top of the pass at 3 p.m. amidst freakish scenery of tottering rock aiguilles, we soon rejoined the survey team. This is probably a new pass between the Malana and Tos nullahs. It is now possible to get from Manali in the Beas valley to the head of the Tos nullah direct, and would represent a journey of three days' duration via Jagat Sukh nullah, the Malana Ice-pass, the Malana glacier and, lastly, the pass we had recently made. We camped on the far side of the col at 16,000 feet, some 2,000 feet above the snout of the Tos main glacier in an attractive rock-girt site.

[13] *H.J.*, Vol. XVII, 1952, p. 125.

July 10th gave no opportunity for survey because an aggravating mist filled the valley. We caught occasional glimpses of White Seal, 21,148 feet, which we identified and earmarked for future attention. The tents were struck at 10 a.m. and we moved down a snow-field which soon surrendered to grass in the shape of a spur. We continued to descend for about 1,300 feet when suddenly the mist lifted and we were astonished to see a very large glacier snout barely emerging from a vast tract of moraine. A strong current flowed away into a green valley. The Survey of India sheet 52H/SW reliably depicts the features of this region, but it came as a distinct shock to find that our navigation had been correct. Since there is an exit from the Tos nullah north to the Chandra river in Lahul via the Sara Umga La, we decided that the existence of a well-beaten track would confirm our position. No sooner had we settled triumphantly on such a track than there appeared a Ghaddi making for Lahul leading two pack horses and an enormous herd of sheep and goats. Bringing up the rear was a small boy accompanied by a fierce-looking dog.

Keeping the torrent on our right-hand side we turned towards the head of the nullah. In 1941 Colonel Roberts wrote of the Tos[14]: 'Certainly the lower four miles of the Tos constitute just about the most boulder-strewn, dirtiest stretch of glacier I have ever seen.' It has not altered since he went there. Rain fell, but we decided to push further up the valley and find a site opposite the junction with the Tos east glacier. Less than an hour later, in a shingly but level patch adjacent to a noisy torrent, we hurriedly pitched and occupied the tents to escape a drenching.

July 11th was lost to the weather since the rain had continued throughout the night, cloud sat at glacier level and fears were expressed that the monsoon had broken early. All such fears were dispelled by a sunny start to July 12th. Ashcroft used an elevation above the camp for a survey station and panoramic photography. At 10 a.m. we embarked upon the Tos east glacier—an arduous and ugly terrain unrecognizable as ice. When we stopped for some lunch we were clear of the worst. The moraine was now composed of tolerably small stuff but the route still weaved between massive boulders.

The wall to the south—on our right hand as we ascended the glacier—was an impressive and awesome sight being draped in masses of ice forming hanging glaciers. The peaks stand 4,000–5,000 feet above the glacier and are super versions of the Chamonix

[14] *A.J.*, Vol. 53, 1941-42, p. 326.

Aiguilles—*sans téléferique*. Sheet 52H/SE incorrectly shows the whole of the East glacier to be covered by moraine. This is true for only half its length. The upper section is a normal glacier. Here we enjoyed good going underfoot until the afternoon slush brought scowls and wet feet.

Just after 5.30 p.m. we gained a large flat-topped block at the terminus of a fragmentary moraine, which proved to be an ideal sunbathing and drying station. This determined the site of our second survey camp in the head of the Tos east glacier. From this position we identified the col reached by Roberts, and later Gunther, on the south wall of the glacier. In line with our camp, on the farthest rim of the névé, was an obvious, low col which leads into the Tichu nullah. We wished to locate and climb the col between the Bara Shigri glacier and ourselves. Subsequently we discovered that any route to the Bara Shigri via the head of the Tos east glacier must, additionally, cross the upper névé of the Tichu glacier.

To the north of the obvious col was a higher, rocky depression in the main ridge line of the névé. We decided that it might give access to the Bara Shigri. That night we ate a three-course meal and retired as soon as the sun went down. At 4 a.m. we awoke, quaking with fear at a tremendous barrage of falling ice from the hanging glacier to the south. The rounded ice-fall at the head of our basin gave a climb of 2,000 feet over a distance of one mile on the morning of July 13th. The final dome which abutted up to the ridge was contoured on small ice-steps and we arrived in the col at 9.45 a.m. We expected a new world and rushed to the far side to stare, not into the Bara Shigri, but into the upper névé of the Tichu glacier. We were standing on a rock terrace deserted by the snow, beneath which we could see a route down into the basin. One and a half miles away, in the main wall of the Divide, we saw another col and this time there could be no doubt that it would eventually reveal the Bara Shigri. I persuaded Burgess to join me whilst Ashcroft and his two survey assistants climbed to the highest point of the rim of the Tos east basin, now behind us.

Descending rapidly, first a slabby groove, then 30 feet of snow *arête* on to a steep corner, we took a traverse of scree-covered ledges to enter the basin. This gave a hot but gentle march, unhindered by crevasses, to a scimitar-curved rising ridge of snow which we took as far as the small névé beneath the col. It now came into sight. From here, looking west along the wall we could also see a steep, ice-sheeted col to the left of our destination. This is the true Gunther's Ice-pass and is separated from the D.H.E. Ice-pass by a peak perhaps 1,000 feet higher than the cols. The Abinger

Expedition of 1956 named it Dome. Immediately ahead was a great ice-cliff, while on the right a steep ramp of snow gave another line to the rough red rocks of the col at which we were aiming. However, it soon became apparent that there was a couloir hidden around the corner of the ice-cliff and we chose it to make the ascent. In places the soft, sugary snow lying on ice made climbing laborious—it also caused us to glance apprehensively at a great bergschrund yawning beneath us. Once we had reached the foot of the rocks, the labour was over and we scrambled excitedly to the col. Derrick was on satisfying his thirst, but I walked a few paces towards a cornice and, looking down the north, immediately recognized the icy junction of Concordia and the orderly, virtually snowless, peaks of the Bara Shigri. The contrast between the area before us and the one in which we had been climbing could not be greater. From our position ice-slopes of 70 degrees swept down to the Bara Shigri and the descent did not seem feasible. Similarly, Gunther's Ice-pass, whilst easily accessible from the north (Bara Shigri) side, would present a severe climb from the south (Tichu glacier) side.

We estimated the direction of flow of the Bara Shigri glacier to be north-north-west ; there is an acute-angled bend at Concordia where a tributary stream joins from the east-south-east. Both have a text-book appearance with lateral moraines straight from the drawing board! Our final task, the building of a cairn, took half an hour, and at 2.30 p.m. we left the col for a tiring return across the two snow basins.

We supped, in the declining moments of the day, on the warm flat surface of the boulder which had proved so useful as a dining and drying platform. As we retired for the night the hanging glacier from Peak 19,061 discharged noisily.

The camp was slowly struck on the morning of July 14th and we moved back down the Tos east glacier in glum silence. In our enthusiasm for a lightly loaded, swiftly moving party we had brought insufficient food and this antagonized our porters. By strict rationing we could afford to spend three more days climbing, so we decided to attempt the second ascent of White Sail, 21,148 feet.

The upper névés of White Sail are drained by a steep little tributary glacier which joins the Tos east glacier in a chaotic junction of moraines and séracs. First we cached our surplus equipment beneath a prominent boulder ; then we picked our way gingerly up the steep bank of moraine bordering the White Sail glacier on the true left side. Crossing the crest of the moraine we entered a sheltered basin free of ice and offering level camp-sites with running

water. The height was 15,000 feet. Against the stupendous backcloth of precipice which forms the south wall of the Tos east glacier we erected the tents, re-designed the menu by supplying bully beef and soup for breakfast the next day, and eyed the wisps of alto-cirrus cloud with disquiet.

July 15th dawned grey and we awoke to the patter of rain on the canvas. We were determined to gain the upper névés whatever the weather, so we quickly struck camp and regained the crest of the moraine. Now and again during the climb we noticed ibex slots–the first sign we had seen of these creatures. In its upper section the approach moraine is studded with massive boulders and it eventually abuts against the retaining wall of the lower basin. We gained this basin by traversing across loose moraine beneath the wall. The basin opened out into an ice-field which we crossed on firm snow towards the upper ice-fall of White Sail which is divided by a great pinnacle. The right-hand side, though steep, looked straightforward so we chose it. It was an exhausting route and taxed us severely. As soon as we emerged near the col under the south face of White Sail we saw that the ice-stream on the left-hand side of the pinnacle led circuitously, but easily, to the same place. It thus became the descent route two days later.

We pitched camp early a little way from the col but out of range of White Sail's numerous ice-cliffs. During the evening we enjoyed some remarkable views of the transformed peak of Ali Ratni Tibba and our old antagonist Indrasan.

At 3.45 a.m. on July 16th I anxiously inspected the weather and the glittering stars announced it to be perfect. After some delay over the provision of soup and tea, Burgess, Ashcroft and I set off for the col due south of White Sail. Acclimatizing to the day we were at the foot of the steep ice slope beneath the col by first light. Less than an hour later we were again looking down on the Bara Shigri which Roberts[15] was the first to see from this col during the first ascent of White Sail in 1940: 'To the north rock precipices fell abruptly to the Bara Shigri glacier, which here runs as straight as a main road, and beyond the Shigri was the maze of Spiti mountains, and beyond them Tibet.'

Before us, to the north rose a shattered, scrambly ridge which gave out in places on to snow and eventually terminated in a snow dome. Above this a line of ice-cliffs formed the most conspicuous feature and obviously contained the crux of the climb. Above the cliffs snow slopes ran together to form the summit pyramid.

[15] *A.J.*, Vol. 53, 1941-42, p. 329.

Burgess led, with myself second and Ashcroft as third man. Two sections required ' pitching '—one, a delicate and airy traverse to the left along a slight gangway flecked with verglas. Second, a steep ice gully by which we regained the spine of the ridge. The work was most enjoyable, we were gaining height rapidly and the weather was perfect.

I felt very optimistic of the top. Rock and snow alternated until we reached the foot of the dome where it was necessary to don crampons. We had promised ourselves a good rest at the top so we sprawled over rucksacks and ropes, eating breakfast and examining the ice-cliffs from close quarters. There appeared to be two possibilities. One, later to be chosen, was roughly on our contour but the approach was overhung by a fantastic array of Damocletic icicles! Beyond this cage the cliff angle relented slightly and there were prospects of a footing. Secondly, to the left of our position the slopes from the summit pyramid again met the gentler angle of the snow dome, but the way was barred by numerous séracs and a maze of crevasses which would have cost hours of route finding. We decided to risk the icicles and tackle the cliffs direct.

Installed beneath the wall and therefore safe from falling ice, Ashcroft and I belayed Burgess from within the cage formed by icicles 12 feet long and one foot in diameter. Encouraged by the thickness of the icicles he made a bold move out of the cage on to the lower, vertical ice-wall, where he clung for some minutes before surmounting a gutter-like feature to arrive on easier ground. He had climbed the crux. We joined him with difficulty and were engaged for a further three hours climbing the cliffs. The presence of hard ice called for continuous step cutting until the slope merged with the west ridge.

It was a distinct relief to move together again along the ridge and up the south face with which it eventually merged. Underfoot was hard frozen stuff which occasionally broke and made heavy going. Gathering clouds caused us some concern and eventually consumed our late adversaries Deo Tibba and Indrasan. The snow slope was featureless so we aimed for a small black boulder on which to rest before the final effort. Immediately above us were the steep and inhospitable rocks of the west ridge. The top section was a sharply tilted slope of frozen snow which Burgess climbed rapidly, sensing the top. We saw wisping alto-cirrus, felt the summit breezes and heard Burgess shout that he was there.

The time was 1.30 p.m. and the ascent had taken 8½ hours from the camp which we could see far below. On a rock outcrop 100 feet below the summit we could make out the remains of a cairn so

we descended to it in the hope that Roberts had deposited a note. There was no trace of a message from the first ascent over twenty years before. We rebuilt the cairn and left a note of our climb before resuming the descent. Like Roberts we found that, in descent, the steep section from the base of the summit cone to the shoulder required great care and only one man could safely move at a time. The rock ridge permitted continuous movement again and the last stage was a free-for-all down the slope below the col. However, it made poor glissading so we ran down together to be greeted at the camp by Ang Chook and Jigmet who had spent the day watching us do the climb.

Two days later we entered Base Camp with happy memories of the Divide, not the least of which was the *chapatti* feast provided by the Ghaddi whom we met again in the Tos nullah.

We learned that Handley and Gray, with Wangyal and Zangbo, had made two first ascents in the cluster of aiguilles to the east of Ali Ratni Tibba but had been unable to pursue a route on the latter because of the onset of the monsoon.

Through sheets of rain, negotiating the first of many swollen torrents, we began the march out of the Malana valley on July 20th and arrived in Manali one week later.

APPENDIX

The Derbyshire Himalayan Expedition, 1961

The Survey Report

Introduction

A secondary objective of the D.H.E., 1961, was:

> 'To solve some of the cartographical confusion which at present exists on the maps illustrating the watershed between Kulu and the Bara Shigri.'

This to a certain extent was fulfilled but, unfortunately, time did not permit extending the plane-table survey beyond the head of the Tichu glacier. A route was traversed and surveyed between the Malana glacier and a col at the head of the Tichu glacier which looks down on the Bara Shigri glacier (Concordia Platz). The survey was supplemented by photographic panoramas.

In 1954 an attempt was made by A. E. Gunther, P. J. Webster and R. Handley to cross an 18,000-foot ice-pass on the main Kulu Divide from the west to the so-called Concordia Platz on the Bara

Shigri glacier (*Geographical Journal*, A. E. Gunther, Vol. CXXI, 1955). This pass had been observed by Gunther in 1953 from the Bara Shigri side. His party was warned off trying the Tichu nullah route by Snelson who reported that the snout of the glacier ended in a deep gorge 100 metres wide and was rotten and dangerous. They therefore took the glacier going east from their Base Camp at the foot of the main Tos glacier. They reached the col at the head one mile east of Peak 19,061 and looked down on the Tos east glacier. The col was marked by a cairn left by Colonel J. O. M. Roberts when he ascended Peak 19,061 in 1940. From this point they noted a col at the extreme head of the Tos east glacier which they considered would give access to the extreme head of the Tichu glacier under the 18,000-foot ice-pass which was their main objective. However, weather conditions were bad and time did not permit attempting to cross into the Tichu glacier.

In addition to the above information, the D.H.E. left this country with the map and report by J. P. O'F. Lynam (*Geographical Journal*, J. P. O'F. Lynam, Vol. CXXVI, 1960) and the knowledge that the Abinger Expedition had attained a col in the Divide from the Bara Shigri side in 1956.

Our objective in the field, therefore, came to finding and climbing Gunther's Pass and surveying and photographing throughout the route.

The survey was carried out with plane table, telescopic alidade and Indian clinometer (used to calculate certain heights). All stations were re-sected from Survey of India triangulation points and spot heights on peaks. It had been intended to start from a Survey of India triangular point at the mouth of the Malana valley, but the time available after the assault of Indrasan did not permit this.

Observations

1. On July 13th Pettigrew and Burgess climbed into the col hitherto supposed to be Gunther's Ice-pass, as located by A. E. Gunther and attained by the Abinger Expedition (*see* Introduction).[1]

Their observations revealed that two cols exist and that they had not,[2] in fact, reached Gunther's Ice-pass. The col observed by Gunther and attained by the Abinger Expedition is one mile due west of that reached by Pettigrew and Burgess. When this was realized the latter was named D.H.E. Ice-col. The Gunther

[1] *See* sketch-map.
[2] Panorama No. 9.

Ice-pass, whilst easily accessible from the north (Bara Shigri) side, would present a severe climb from the south (Tichu glacier) side. The opposite is reported of the D.H.E. Ice-col. No difficulty was experienced climbing into the col from the south (Tichu glacier), but ice-slopes of 70 degrees were observed falling to the north (Bara Shigri). It is extremely doubtful whether either col offers a feasible route between Kulu and the Bara Shigri. It is quite likely that similar cols, with opportunities for pass making, exist but none were observed.

2. The existing Survey of India 1 inch sheet 53H/12 generally lacks detail. The definition of peaks, ridges and glaciers is very poor. In preparing the expedition map, the head of the Tichu nullah, except for the ridge between Pinnacle and Chapter House, has been delineated from 52H/12 and detailed from photographic panorama No. 9.

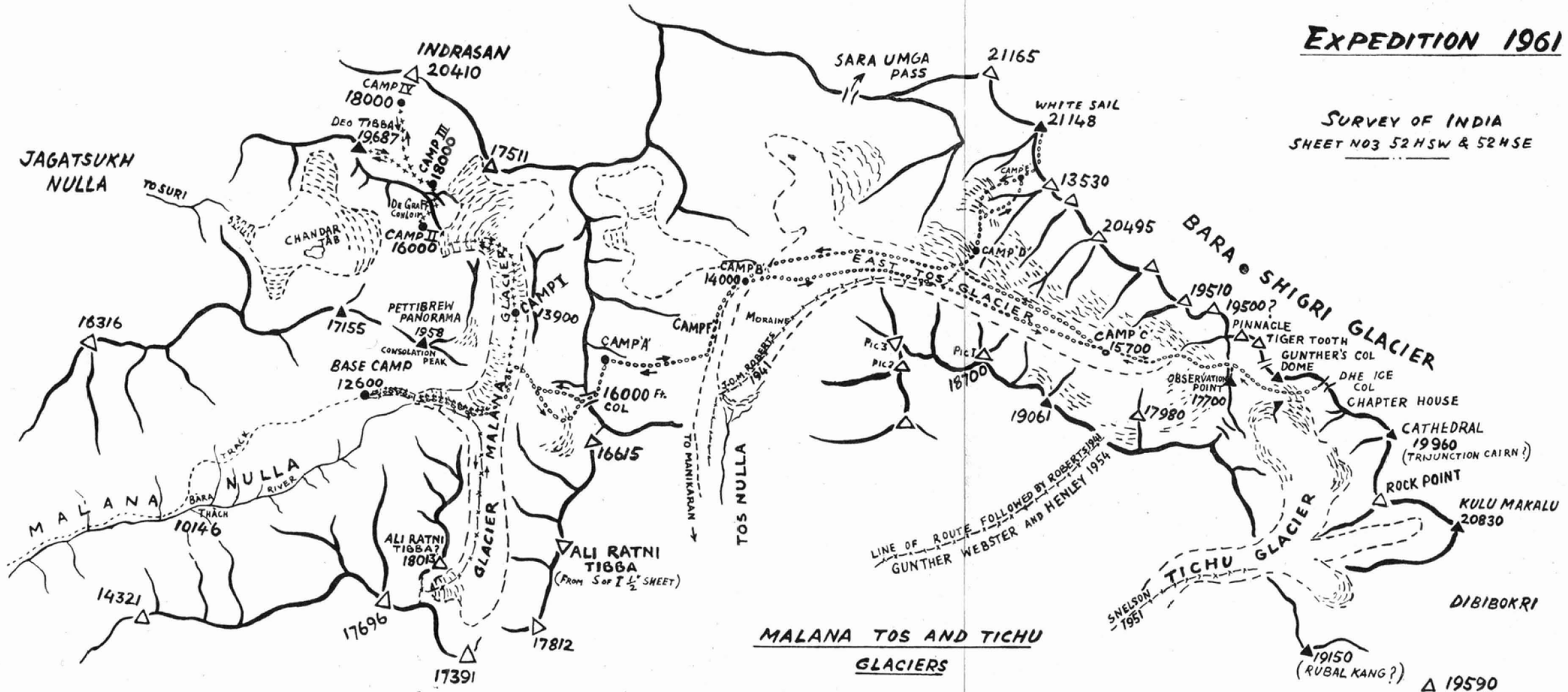
3. Difficulty was experienced in identifying the peaks between 19,510 feet and Gunther's Ice-pass in relation to the heights shown on the map drawn by J. P. O'F. Lynam (*Geographical Journal*, Vol. CXXVI, 1960). The ridge line over this section has, in the main, been taken from Lynam's map, however. Reference to the Abinger Expedition map (*Mountains and Memsahibs*, 1958) and discussion with Dr. A. E. Gunther has resulted in the names shown from Tiger Tooth to Kulu Makalu. Altitudes are not shown to the peaks Pinnacle, Tiger Tooth and Dome since the distances to these peaks are doubtful. However, the vertical angles measured from Observation Point are shown in the table of height observations for future reference.

4. The Peak 19,960 feet is assumed to be Cathedral Peak, climbed by Mrs. Eileen Healy *née* Gregory, Abinger Expedition, in 1956. On Survey of India sheet 52H/12 this location is marked 19,960 feet and indicated as a Trijunction Cairn. This suggests that surveyors have attained this point at some time. This hardly seems feasible, but what is the definition of a Trijunction Cairn ? It is possible that surveyors of a past era made intelligent suppositions from a distance regarding the 19,960 feet summit and the head of the Bara Shigri glacier to the north. This resulted in the false length of the Bara Shigri glacier which in turn prompted the recent research into the validity of sheet 52H/SE.

5. Observation Point was re-sected from 19,061 feet, 20,830 feet and 21,760 feet. Plane-table rays taken into Deo Tibba, 19,687 feet, and Indrasan, 20,410 feet (off the plane-table sheet in use at the

DERBYSHIRE HIMALAYAN EXPEDITION 1961

SURVEY OF INDIA
SHEET NO3 52 HSW & 52 HSE



MALANA TOS AND TICHU GLACIERS

SCALE :-

1 ½ 0 1 2 3

½ INCH TO 1 MILE

ROUTE TAKEN TO INDRASAN AND DEO TIBBA

ROUTE TAKEN TO BARA SHIGRI GLACIER

ROUTE TAKEN ON 18013/ ALI RATNI TIBBA RECONNAISSANCE

OBSERVED ICE FALL OR CREVASSED AREA

▲ PEAKS KNOWN TO HAVE BEEN CLIMBED

FOR FURTHER INFORMATION SEE SURVEY REPORT

time), closed with very little error. This reasonably proves the correct positions of the Bara Shigri/Tos Divide peaks in relation to Deo Tibba and Indrasan.

6. From an examination of the article and photograph by Snelson in the *Himalayan Journal,* Vol. XVII, 1954, it would appear that the peak climbed on that occasion and named Rubal Kang is peak 19,150 feet, and does not reach 20,830 feet as hitherto supposed. The latter, Kulu Makalu, is recently reported to have been climbed for the first time by three Italian climbers from the Rome section of the Italian Alpine Club (*American Alpine Journal,* Vol. XIII, 1962, p. 275). Moreover its position is now known to be on the main Kulu Divide above the Bara Shigri and east of 19,960 feet.

7. The peak identified on a photographic panorama taken by Charles Evans from the second shelf of Deo Tibba in 1951 (*Himalayan Journal,* Vol. XVII, 1954, p. 118) as Ali Ratni Tibba seems in doubt. Evans himself fails to recognize it on an accompanying page when the caption is written: 'Unidentified peaks of the Malana nullah'! The peak is undoubtedly the finest and most distinctive peak as viewed from the north but the Survey of India sheet 52H/SW, $\frac{1}{2}$ inch to the mile, definitely marks a peak 2 miles to the east of peak 18,013 feet as being Ali Ratni Tibba. Either the name Ali Ratni Tibba is misplaced on sheet 52H/SW or peak 18,013 feet has been wrongly identified. There are so few peaks named in this area that one would expect only the most distinctive to bear names. On the other hand, the peak *marked* Ali Ratni Tibba on the Survey of India sheet may look distinctive when viewed from the Tos nullah. The D.H.E. left England firmly convinced that peak 18,013 feet and Ali Ratni Tibba were one and the same on account of Pettigrew's panorama (*Himalayan Journal,* Vol. XXI, 1958, p. 101) being incorrectly identified (apparently) throughout its entire length.

8. The existing Survey of India sheet 52H/SW, $\frac{1}{2}$ inch to 1 mile, with its eastern edge forming the east side of the Tos nullah, is substantially correct in the Malana glacier and Indrasan region. Peaks and passes were easily identified and the plane-table rays taken from Base Camp and the Malana glacier and delineated to infinity gave a correct layout of the surrounding ridge lines.

9. The height of Indrasan requires further investigation. The evidence, which unfortunately rests on only one clinometer reading, suggests that it is less than 20,410 feet.

10. Regarding heights in general, these were determined by sighting back from known peaks to derive the plane-table station altitude. Most of the peaks sighted on to tied in with the heights

marked on sheet 52H/12 and sheet 52H/SW. However, in the case of Picture 1 and Picture 2 these obviously worked out too high, which throws suspicion on the re-sected stations 3 and 4—and, in turn, questions the fixed points used for re-section. However, any error present would only result in the ridge line of Picture 1 and Picture 2 being a little further west.

It was unfortunate that the morning on which the plane table was set up at Station 3 (Camp B) cloud gave trouble in sighting, particularly in reading angles.

In conclusion, if I may quote from Colonel J. O. M. Roberts, *Alpine Journal*, Vol. 53, 1941-42, 'Kulu Revisited': 'Heights above sea level in the Himalaya are pernicious and variable things and until the modern surveyor comes along and stops all argument Himalayan mountains seem to wax and wane in an alarming manner.'

J. ASHCROFT, A.M.I.C.E.,
Expedition Surveyor.

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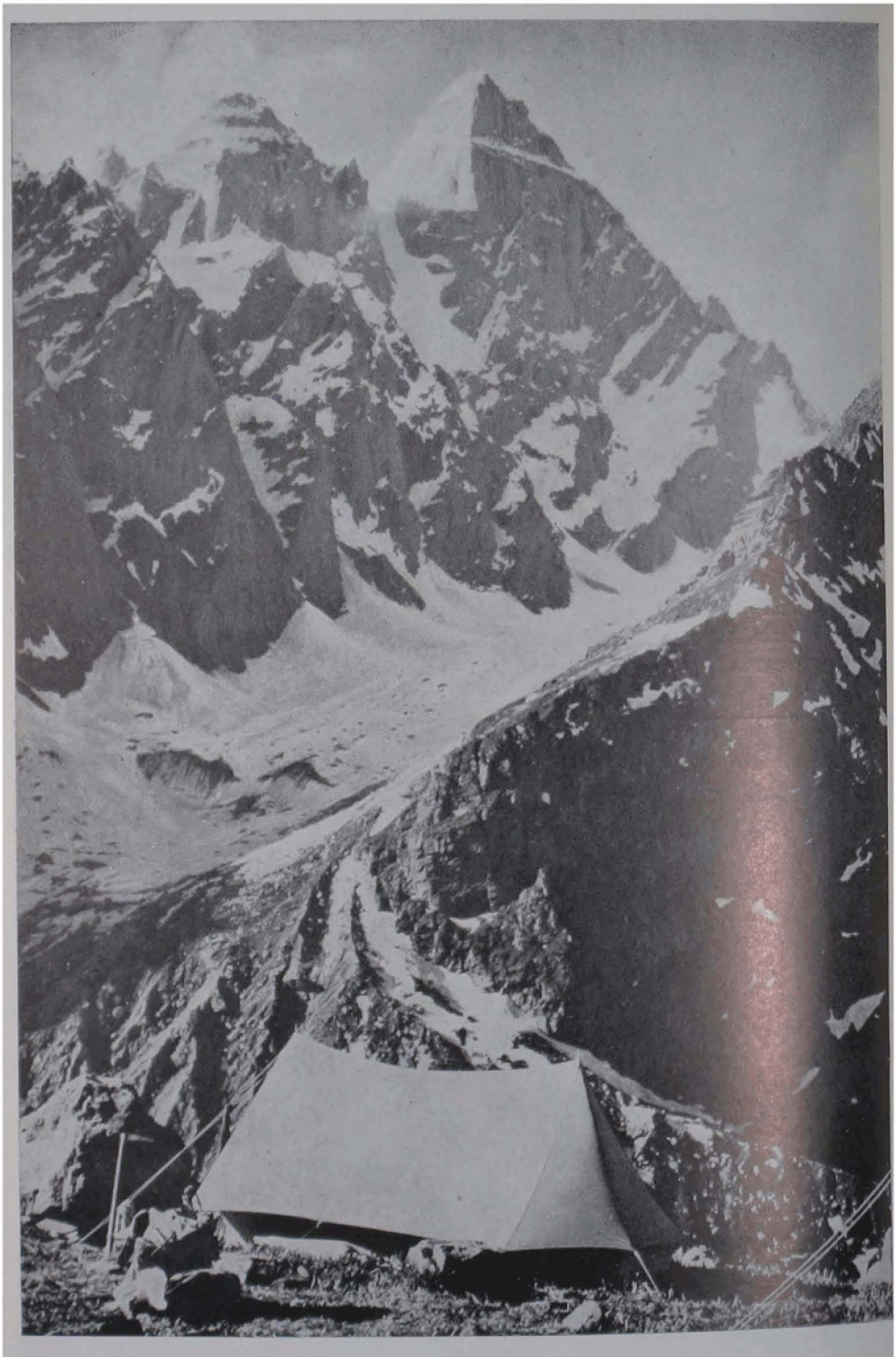
Mr. J. P. O'F. Lynam, B.Sc.
Shri Keki Bunshah.

BOB PETTIGREW,
Leader.

←BASE CAMP *Photo : Bob Pettigrew*

MALANA GLACIER FROM SOUTH-EAST SHOWING SECOND AND THIRD SHELVES, DE GRAAFE COULOIR, AND INDRASAN (20,410 FEET), PUNJAB HIMALAYA

SOUTH BRANCH OF MALANA GLACIER, PEAK 18,413 AND MANIKAREN SPIRES, LOOKING SOUTH FROM THIRD SHELF



INDRASAN FROM 16,000-FOOT COL, LOOKING NORTH-WEST

A REGIMENTAL EXPEDITION TO THE HIMALAYAS

CAPTAIN J. S. KEEN

ON December 14th, 1961, a party from the Royal Warwickshire Regiment with two Gurkha soldiers and an Army doctor arrived in Kathmandu at the conclusion of an expedition to the Solo Khumbu. The expedition, which left Hong Kong on October 26th, had had as its objective a 20,000 feet peak in the Mingbo area, just south of Ama Dablam and some ten miles from Everest. Small, and very inexperienced, our group did not succeed in climbing its chosen peak but for us this can never detract from what was, in every other respect, a most happy and enjoyable venture.

As everyone knows, the British Army of today encourages 'adventure training' and gives active assistance, financial and otherwise, to schemes considered worth while. To 1st Battalion, The Royal Warwickshire Regiment, this was incentive, and if spur were needed, it came in the form of the posting, in 1960, of the Battalion to a Gurkha Brigade in Hong Kong. By May of the following year a plan for an expedition to the Solo Khumbu had been submitted to the appropriate authorities. Official approval was quickly granted, and Lt.-Col. J. O. M. Roberts, M.V.O., M.B.E., M.C., then British Military Attaché in Kathmandu, was asked to assist in obtaining permission and in giving his advice.

Colonel Roberts advised an attempt on a peak in the Mingbo range and approached the Nepal Government to this end. The expedition would take place in the autumn and would last about six or seven weeks. Meanwhile, we in Hong Kong, awaiting permission from Nepal, began preparations in earnest. The selection of a team and reserves—from a host of volunteers—was the first task. At the end of June the party had been chosen and responsibilities allotted. Three junior ranks were selected: Cpl. D. Harrold (cook); L/Cpl. R. Neale (photographer); and Pte. J. Docker (medical orderly and —self-appointed—humorist). 2/Lt. I. M. Tomes would be 2 IC. The remaining two members were to divide responsibilities. Major J. D. Barrett, R.A.M.C., the expedition doctor, and the only member with Alpine experience, would assume the climbing leadership. The over-all organization and command developed upon myself.

The pattern of preparations for an expedition of this nature must be fairly constant although, obviously, dependent upon objective and time, there will be variables. In our case the task was eased by

the assistance afforded us by various Army departments, particularly in the matter of equipment, almost all of which was available to us on loan. Newspapers were approached and the *South China Morning Post, Birmingham Mail* and *Coventry Evening Telegraph* provided some excellent financial backing. Further money was granted from Army funds. At the request of the Battalion Commander, the Colonel of the Regiment, Field-Marshal Lord Montgomery, authorized a handsome grant from Regimental sources. Free air travel to and from Calcutta, on a Gurkha leave aircraft, was permitted, and local firms were generous in giving or lending equipment and film.

At this stage, Lt.-Col. A. B. Taggart, M.C., Commanding 2nd/10th Gurkha Rifles, offered to attach two of his soldiers to the party. This offer was accepted gratefully and the two concerned, Ran Bahadur Rai and Chaturman Rai, soon became popular and useful members of the team. All that was lacking was permission from the Nepal Government.

On September 16th, Dennis O'Leary, the Staff Officer most concerned with the trip, telephoned. His voice jubilant, he read over the signal from Kathmandu which told us, coldly and impersonally, that permission had been granted, and that the requisite fee was to be lodged with the Nepal Government forthwith. It was a high-spirited group that entered the last phase of preparation and training. Heavy equipment had already been despatched to Calcutta, and the 'tying up of loose ends' became a positive joy.

I suppose that few expeditions go entirely to plan or do not suffer some tragedy. And so it was in Hong Kong. On October 18th, just eight days before we were due to leave, on a final rock climb in the New Territories, John Barrett fell 90 feet and suffered grievous injury. After a daring and skilful rescue by a helicopter pilot of the HK.A.A.F., he was evacuated to Kowloon General Hospital. With tremendous courage, his life in the balance, he survived three major operations in five days, culminating in the loss of his right leg which was amputated above the knee. It was a bitter blow to a man of John Barrett's calibre and yet this incredible man, who today uses an artificial limb and who has declared his intention of climbing once more, was able to say to us, 'You can't just pack up now. You've got to go on.'

Another doctor, Hamish Macdonald, a National Serviceman due to end his tour of duty, volunteered to accompany the expedition. With the backing of the officer then commanding Hong Kong, Lt.-Gen. Sir Roderick McLeod, War Office, speedily approved an extension of service. John Barrett's number 2 on that ill-fated climb.

the cheerful Docker, who had also been injured, but slightly, was replaced by the first reserve L/Cpl. J. Knight, and on October 26th we flew to Calcutta. Eight days later we set off from Dharan Bazar, and with the sun's early rays painting massive Kanchenjunga in the east, the approach march had begun.

It took eighteen days to reach Namche Bazar. The weather was delightful ; sunny days, cool evenings. Routine was soon established and in a hospitable country (one remembers Dewali—but vaguely) the pleasure of a leisurely approach was great. There was, indeed, but one untoward occurrence. Early one morning in the Arun valley, after a good night by the murmuring river, five of our porters declined to go any further. As their total loads amounted to some 300 lb. weight, and we refused to pay higher wages (and so lay ourselves open to further demands in the future), we seemed to have reached an impasse. Despite the efforts of our Sardar, a weak man anyway, the five remained obdurate, and the remainder of the porters, twenty of them, looked on with interest.

Without hesitation, and using that forthright language sometimes associated with the British soldier, Neale and Knight suggested that the five, together with the Sardar, take their leave. We could carry the kit ourselves. In the face of this the other porters promptly offered to assist, and amidst sardonic grins from their fellows, the now discomfited five, plus Sardar, departed. With our two Gurkhas appointed joint Sardars, we had no further trouble of this sort, and the remainder of the march was casual and happy. On November 21st, fit and contented, we made that exhilarating climb from the Dudh Kosi up to Namche.

There we met our new Sardar and his son, who were to be the expedition's high-altitude Sherpas. The name Pasang Phutar is familiar to many. After his splendid performance on the 1953 Everest Expedition (he went twice to the South Col, it will be remembered), he was awarded the Coronation medal and received an excellent chit from Sir John Hunt, both of which he proudly showed us. His son, Ang Norbu, with several years' experience already, is determined to do at least as well as his father.

We spent two days in Namche and on the 23rd we moved on with a new team of porters, organized and rigidly controlled by Pasang Phutar. In leisurely fashion we walked to Thyangboche. If there is a more enjoyable few hours' stroll than that from Namche to the Monastery it must be out of this world and the view from Thyangboche was, we thought, reward enough for anyone who cares to go there. Pangboche, too, if not so delightfully set, has a charm of its own—' yeti scalps ' not included!

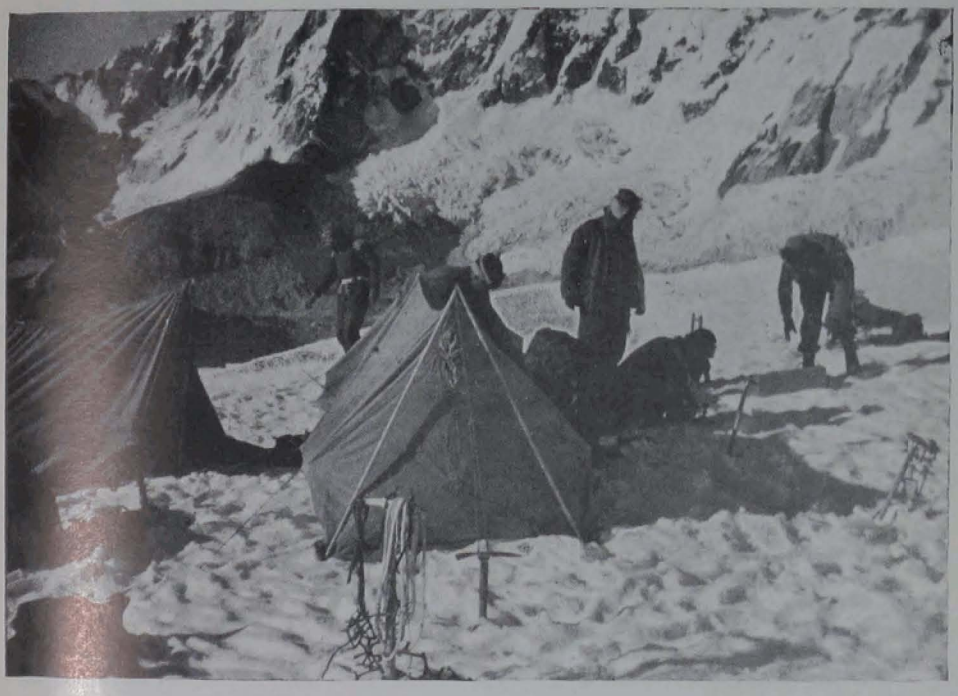
On November 24th we established a Base Camp at about 16,000 feet, just below Ama Dablam, that seemingly solitary, magnificent mountain, surely among the most lovely of all. To the east were the principal peaks of the Mingbo range. Amidst this splendour one felt small, insignificant. Enough it would have been just to sit and admire the handiwork of One who, in all that lonely grandeur, seems closer than He does elsewhere. Time, however, that unfriendly enemy, pressed upon us, and we had to make our attempt.

On November 25th, my wife's birthday as it happens, a reconnaissance was carried out. Whilst the main body made comfortable our Base, Pasang Phutar, Ang Norbu and I climbed the lower slopes of ' our ' mountain. At 18,000 feet loose rock and scree gave way to snow ; the going was firm and we seemed to have chosen the right route. We tested snow conditions for some four hundred feet and then returned to Base. On our return a plan was made. By comparison with those of the big expeditions our plan was simplicity itself. November the 26th would be devoted to the preparation of stores required for a quick attempt upon the peak. On the 27th, a reduced party would climb to 19,000 feet, camp, and subsequently launch an effort on the 28th.

The Advance Camp—as we called it—was reached on the afternoon of the 27th, as planned. The climb had been simple enough, with only one smallish ice-cliff presenting any problem. This obstacle overcome, camp was made on a wide and level platform. From this site, the Mera La almost within reach, we had the most superb view. Ama Dablam loomed over us ; there stood Taweche, cold and forbidding, but majestic ; away to the west, as far as the eye could see a succession of wrinkled peaks, blue, white and grey, enchanting in the light of a dying sun.

The following morning dawned bright and clear. We reckoned that if the going held, the top could be reached in four hours. Return to the Advance Camp could be made in two. Harrold and Neale, together with the two Sherpas, were chosen for the attempt. The former has a strength which appears to increase with hard work. Neale, young and determined, is a fast climber with a delicate and finely tuned sense of balance.

Early on, they disappeared over a series of snow hillocks. The going was slow but steady, until deep snow forced the party on to an ice-cliff. This was traversed and was followed by a vertical climb and a second, shorter traverse. Again conditions became good until, just below the Mera La, further advance was halted by a very wide crevasse. How deep ? ' All I know ', said Harrold, ' is that I could not see the bottom.' On the right were the incredibly steep ice



ADVANCE CAMP BEING ORGANIZED (NOVEMBER 27TH)

THE VIEW FROM THE ADVANCE CAMP

and rock slopes of the peak's north side. To the left: a jumbled and fantastic collection of crevasses. In the absence of any form of bridging kit, a return to the Advance Camp was forced upon them. Pasang Phutar's disappointment almost exceeded our own. 'It is', he said, 'a very small mountain, but we cannot go to the top.'

Over a hot drink we discussed alternatives. There was, in fact, only one. This involved a descent to Base, at least a day's rest and then the crossing (possible, we knew) of another saddle to the north. Then would follow a move south and an attempt from the Hongu (South Peak) area. This would take, including the return to Base, eight or ten days. Our limited special rations would not last that time. Financially, too, we could not afford the extra porters required. (It may be of interest to note that the expedition cost £900 and ended with a credit balance of £23.) Disappointed, but not altogether disheartened, we returned to Base.

Our return to Namche was very fast, and everyone felt exhilarated by the rapid descent from 17,000 feet to 12,000 feet. There we rested for a couple of days, and amongst one's memories is the party held one night in Pasang Phutar's house. We found the Sherpa singing and dancing quite fascinating, and very much more tuneful than we expected. We were assured that, by custom, we should perform one of our own 'tribal' dances. Hamish Macdonald was outvoted on the eightsome reel (no one else knew it) and the party danced the Hokey-Cokey—which was an undoubted success!

Too soon, we were on the move, but the splendour of the Dudh Kosi was some compensation. Duck-egg blue, the river rushed headlong to the south. Woods and herbage were dressed in their autumnal best—russet, gold and green. Every so often a snow peak towered above us, usually with dramatic suddenness. And daily we met cheerful parties of Sherpas, heavily laden with oranges, or corn.

Kathmandu was reached in 13 days. Junbesi, Those, Chyaubus (that delightful ridge walk), Dolalghat with its twin rivers and bridges, Banepa, and incredible to behold, that forgotten object: a truck. Thus we proceeded to the Hotel Royal and the legendary Boris, so tolerant of those with vast appetites. And how does one describe the luxury of a glorious wallow in a steaming bath ?

The expedition was over. We had not climbed 'our' mountain although we knew that the experts would somehow have succeeded. It was, however, a beginning. We had had the most splendid experience of our lives and we had acquired the taste for this sort of venture. We had met the happy, laughing people of Nepal and seen their home. And in each of us is the determination that we shall, one day, enjoy again that rare and wonderful privilege.

A SUMMER TRIP TO NANDA DEVI

By HARI DANG

MAY 24th, 1960, saw Gurdial Singh's rooms at the Doon School once again cluttered with the familiar array of kit-bags and canisters. The object of the trip was to traverse the Rishi gorge and climb Devistan (21,910 feet) on the western rim of the Sanctuary, and to reconnoitre the approach to Nanda Devi itself, a mountain much in the minds of some of the party who proposed to attempt it in 1961. The other three members were Brigadier Sukhdev Singh of 77 Division, Dilsher Singh, a student, and myself, Assistant Master, both of the Doon School. After a disturbing comedy of blunders, which initially delivered us a package of crockery, the equipment sent a fortnight earlier by the foresighted Mr. R. E. Hawkins, of the Bombay Branch of the Himalayan Club, arrived at the eleventh hour: an hour before our departure.

With characteristic thoroughness, Gurdial had booked seats in the bus to Joshimath in advance, and we were spared the ordeal of plunging into the pilgrim throng to buy tickets. But even his planning could not defeat the bugs of the Kali Kamli Dharamshala at Rishikesh, and we boarded the bus before dawn with alacrity. With suitable bribes of sweets and sweet words, we coaxed the driver into a determination to reach Joshimath the same evening; which he did despite the usual leaking fuel-pipe, and the imprecations and threats of the various gate-keepers whose regulations he contravened.

The P.W.D. bungalow at Joshimath being occupied by tribes of officials we put up in the bazaar with Bala Singh, the most prosperous Bhotia merchant of the Niti valley and an old friend of Gurdial's. Dabbal Singh, an old hand who had been on almost all of his earlier trips, was the first to arrive. His endearing *Kuch pata nahin, babuji,* flowed effortlessly as we plied him with questions about the other porters. Dewan Singh, also a veteran, had died the previous year of appendicitis, though rumour and Dabbal Singh had it that the cause of his death was his exhuming the fortnight-dead body of his brother for reburial in another spot.

Government employment in the Dhauli valley had increased greatly and porters were hard to find; we could not afford the lush, woollen overcoats which the P.W.D. were distributing to their workers! So, while Dilsher and Sukhdev enjoyed the bracing air of Lata Kharak, and Gurdial cursed the flies, bugs and lack of porters

in Lata village, I made a two-day 'rush' trip to Bampa, thirty miles up the valley, to look for Kalyan Singh, who was to be our Sirdar, and for more men. Kalyan Singh was tied down by family illness, and all I brought back was one youngster keen on saving Rs.1,200 to wed a comely and hard-working wench, and a Gamsali man with a beard he wanted to grow in peace away from his family. At Bampa, Kalu, the great chest-thumper of Kamet and Nanda Devi, 1936, thumped his emaciated chest once more, while Jodh Singh, another veteran, packed his blanket and *chillum* to accompany me, leaving a heart-broken wife and a charming, sobbing daughter wailing loud and long as though he was going to certain death. I had to force him to remain behind whereupon Maghi and Saraswati, the wife and daughter, giggled, and Jodh Singh could scarcely conceal his tears. On the way back in Malari, the tea-shop resounded to the drunken laughter of Kalyan Singh, another veteran who had been with the Scots up the Girthi. He promised to join us with more men after a few days.

With 19 men, against an estimated need of 25, we camped beside the stream below the Dibrughetta alp three days after leaving Lata village, where we dumped some loads to be ferried up later. With dusk, arrived the whistling, light-hearted band of Malariwallahs, who, true to their word, did double-marches and brought up our Lata loads. A party of village shikaris had preceded us and left behind burnt hillsides and forest as their unpleasant signature. The ash from these patches flew into our eyes at each step and the country seemed somehow defiled by such human wantonness. We had numerous occasions to dislike this habit of hill-folk burning forest and scrub for sheer fun, even though better forage is often the result.

Beyond Dibrughetta the route to Ramani, the beginning of the gorge proper, is a two-day scramble over steep scree, morainic boulders and scary ledges, with one bad rock-face immediately after the midway camp of Upper Deodi, situated on a sort of hanging terrace covered with birches between two steep-sided streams. Sorties after burrhel were an everyday routine after pitching camp, and I remember the screes and hanging ice-patches above Deodi with little love, for all I earned by four hours of toil in them was a first specimen of *Primula macrophylla* and an intense dislike of the rock-face which stares down ominously on Deodi from across the northern stream.

The Bagini torrent which joins the Rishi at Ramani was unfordable even at noon, but bridging it was rendered easy by timber left

on the bank possibly by the French in 1951. The snow-bridge normally found by previous parties for crossing the Rishi from the right to the left bank was this year in a state of imminent collapse, and its cracked ice-blocks precariously spanned the turbulent torrent with the help of a rock in the middle. After some hesitation, we effected a crossing in the early morning when the river was low and the snow frozen stiff. It finally collapsed a day or two after our crossing, for the porters sent back to ferry up more loads had to go by the left bank route. The only casualties were the off-day declared at Ramani to celebrate the safe crossing, and the stem of my pipe, which went down the Rishi, making me a habitual sharer of Kalyan Singh's *chillum* at camp-fires.

The cairns set up by previous parties have considerably simplified the traversing of the gorge, but it remains a two-day ordeal which always inspires respect, and more when wet with fresh rain. Mainly a stimulating traverse up and down scree and steep rhododendron-covered plunges of hillside, one particular bit known as the 'slabs' necessitates roping at two points. It is a smooth, concave chute of steeply downward-sloping slabs of sandstone. When wet, it can be very treacherous. The midway camp of Bhujgara comes not a bit too soon.

We made an early start next morning, enlivened by an unusual morning alarm when a burrhel was sighted some six hundred yards above and across the deep ravines beyond the camp. Clad in pyjamas, remnants of drowsiness, and never very bright in the mornings any way, I rested the rifle on a convenient rock and fired in the hope of quieting the clamour for fresh mutton, but in vain. The porters lost all confidence in the expedition's shikari, while the members, no less disillusioned, had recourse to venting their spleen on the extravagance and noise. From Bhujgara the terrain is again tricky, a steep and slippery-sided ravine, a succession of rock-ledges, and the evil *mauvais pas*, a long snow-covered ledge under a steep overhang ending in a steep climb up a series of holds arranged like a staircase, all have to be taken carefully. The *piece de résistance* of the gorge is a stimulating climb up a steep rock-chimney to surmount the Pisgah, a highly serrated ridge owing its Biblical allusion to the first view of the promised land of the Sanctuary from its crest. The camp at Tilchaunani is just under Pisgah on the other side and commands an excellent view of Nanda Devi. It is on slate-rock—the porters called it Patal Khan or slate-quarry—just below a slippery-wet cliff of slabs which on the morrow needed great care. Here there is an overhang, under which two members elected to spend the night in the glorious open air and woke next

morning like Somerset Maugham's Philip Carey with running noses. It would not have been tactful to ask if their conclusions about the futility of romantic gestures were the same as that worthy's.

But I anticipate. The porters in the evening espied a herd of burrhel on a saddle of the mountain above the camp. It devolved on me to go chasing them to the tune of jeers and sceptical comments. A porter had to be dragooned into accompanying me, for none would voluntarily waste time and energy with such a 'kutcha shikari'. Crossing the torrent, I decided to climb up a scree-choked ravine to a knob above the saddle from where I would get an excellent view. On the saddle were only ewes, but half-way up it I saw a beautiful ram two thousand feet above Tilchaunani, silhouetted against the western sky. We retraced our steps down to the torrent, and up to a point above where the ram had been seen. This took over an hour and the ram was moving safely up a couloir well above us when we reached our objective. We scrambled down to camp, stalking a snow-cock above the camp. She flapped her wings characteristically after each melancholy whistle and flew with her brood across the Rishi as I was debating whether to chance a shot with the rifle. Tea, but little sympathy, was waiting for us at the camp.

Next day, ignoring the temptation of a clutch of five snow-cock eggs discovered in an earthen embankment, we pitched camp just above the Rishi, somewhat before the snout of the Southern Rishi Glacier. Our object was to climb Devistan, and we pitched a Base Camp below a 17,570 feet peak. From here loads were dumped on a ridge of the peak, from beyond which the snow slopes and glacier of Devistan took over. So far the weather had been clear, and we moved up to the high camp, an interesting climb of some two thousand feet up the crevasse-torn glacier. This camp had to be pitched on an exposed ridge commanding an excellent view of the Sanctuary. In the night, the early break-through of the monsoons penetrated the Sanctuary, and clouds came boiling and surging over the Devistan ridges from the south and west. Gusts of snow-lashed winds tore in icy frenzy at the guys of the two-man tents, which shook and quivered alarmingly, admitting piles of tiny snow particles with distressing frequency. The primus stoves after a short spurt of warmth refused to function and the blizzard held complete sway.

Twelve hours later, four weary and haggard climbers emerged from the snow-covered tents, as a wan and pale sun broke the curtain of grey clouds for a moment. Clouds closed in after a brief respite, and even as the tents were struck, snow-dust began to bury the fag-ends of our puny attempts.

Retreat down a relatively easy mountain when we had looked forward to clear views of Nanda Devi was not pleasant, but when the next morning, which found us encamped for a last bid on a col at 18,000 feet, brought no change in the weather, we retreated. The prospect of a few leisurely days on the downs of the Sanctuary, with the summer birds and alpine flowers, was welcome to all. The primulas gave a hearty homecoming, with choughs, rubythroats and rock thrushes serenading our walk to our new camp above the junction of the two Rishis. The burrhel of the Sanctuary find favoured haunts in the cliffs and screes and a dozen or so were sighted even as we pitched camp on the southern side of the junction. My indignation had worn to eagerness and I crossed over and climbed up the chutes where the quarry had vanished. After almost an hour's steady climbing and casting about, I saw a small ewe's sheepish face staring down interestedly at me from an overhang a few yards above me. D.S. shouted *Maro,* and could scarcely conceal his disappointment when I laughed at the suggestion. Having satisfied its curiosity the kid gave a broad and cheery wink, sneezed joyfully and scampered to its mother's side.

Surmounting the overhang, I saw a big male standing poised on a thin spire of rock. I fired four shots in rapid succession, but the range was high and all that dropped was a furrow of fur where one shot had grazed the animal's shoulder. Tea and sympathy back at camp strengthened my determination to bag something next day, and dawn, a misty brightness on the northern shoulder of Nanda Devi, found D.S. and me dismally plodding across ledges and screes, up crags and chimneys, in pursuit of burrhel on the cliffs below the mountain.

Our climbs over one false ridge after another eventually led us to a breath-takingly exclusive hillside partly obscured in mist and covered with scree and dwarf rhododendrons below the north-western ridge of the mountain. This looked far less difficult than the south-western approach, but was effectively rendered impracticable by a vertical thousand-foot rock step a few thousand feet below the summit which forms the characteristic 'step' in all pictures of Nanda Devi from the west and east.

I was listening raptly to the desolate double-whistle of a snow-cock from a nearby gully, when D.S.'s shrill and excited whistle mingled with the cock's melancholy dirge. He eagerly pointed to half a dozen mist-shrouded burrhel in the scree and rhododendrons below us, just this side of a deep, ice-filled gully. Borrowing D.S.'s khaki monkey cap for camouflage, I set out to climb above and on the far side of the burrhel who were unaware of our presence.

The mantle of mist helped, and I reached the ice-gully after two hours or so of stalking, to find no sign of burrhel in sight. I changed vantage, peered in the gathering gloom. I saw the big male as soon as I stood up and he saw me too for he snorted, sneezed in alarm and went sneezing up the scree, the ewes and a small male following him a hundred yards behind. After wasting three shots on him at a range in excess of four hundred yards, I brought down the smaller male. D.S. claimed it a triumph of his monkey cap, and we rolled the animal down the intervening cliffs to the Rishi, put a cairn about him and reached camp for a once well-deserved cup of tea. Rations had been running out, and much as we disliked the idea of shooting in the Sanctuary our earlier failures rendered this sacrilege necessary.

The burrhel, all sixty seers of him, soon disappeared down twenty gullets and next day found us trying to ford the Rishi to reach the peak above the white granite moraine of the Changabang Glacier. The ford was tricky, and some members went back to the flowers on their own side rather than risk a ducking while another, with a shotgun for the collection of a single snow-cock for the respectable purpose of taxidermy, tried to dry-ford the river. The silhouette of a large male burrhel on the cliffs one thousand feet above us made this impossible. A strenuous one-hour climb followed, then we relaxed and smoked half-way up a chimney which led up to the overhanging ledge above us. D.S. investigated the upper portion of the chimney, and suddenly peeled off into my arms gesticulating wildly about the ' big one that was above us '. One hand holding on to the jagged slabs, while the other aligned and fired the shotgun loaded with spherical ball is hardly the way burrhel-shooting is visualized. This was in fact the nearest I had ever been to a male burrhel. The way he sailed through the air in the same proud posture in which he had stood on the ledge above to hit our ledge and go hurtling down the ' khudside ' is a sight imprinted on the tablet of memory that will never fade. He had been chewing the cud of content, the wind ruffling the scraggy summer coat on his brisket, staring vacantly into space beyond the rock anemone at his feet, beyond the ridge and Rishi Glacier, oblivious of the eastern rim of the Sanctuary or of Trishuli and Hardeol beyond it. Perhaps his focus was Tibet, or, like mine, the mystery and divinity, the beauty and complexity, of all creation. We were in empathy for a short moment. Why did I shoot him ? I wish I could answer that!

All good things must end. We took leave of the Sanctuary which had become a part of us in the last week of June. From Ramani, we changed our route and spent some glorious days in a birch-sheltered

camp above the Trishul Nala, exploring our own joys and strolling happily on the mossy, yielding carpet of soft grass that formed a half-mile terrace here, under the splendour of ancient birches.

The bridge built on the Rishi at Deodi by the Germans was our goal, and we reached it to see our porters to a man emulating the worthy ostrich ; heads buried in their arms on the ground, posteriors heavenward. The rock-bees of Deodi were in fighting mood and had to be placated by prayer. The crossing was effected in darkness, the terrors of swaying logs competing with the fear of the frenzied bees who claimed many a porter victim with their stings. Dibrughetta, that balm to the weary traveller in the Rishi valley, was reached next day and greeted us with mists and venal showers of fine rain. Here some braved the icy cascade of the stream below the alp, while others dozed under the mottled shade of the solitary birch on the alp or read mysteries into the faces of the flowers which were now in profuse and luxuriant blossom. It may have been a coincidence that the tents of the impeccably clean, heaven-born bathers were usually pitched upwind of the flower-fanciers' tents, the cookhouse odours safely intervening between, until the hot-springs at Tapoban rendered this unnecessary. We could stay here longer if fresh meat could be shot, and so D.S. and I left camp at 4 a.m. to climb up the alp. We peered over the relatively gentle country below and on either side of the glacier which ends abruptly some two thousand feet above Dibrughetta, but not a burrhel rewarded our scanning till Dabbal Singh sighted an animal browsing across and above the torrent. He was evidently moving upwards as the horizon brightened, and we scrambled down and hastened up the next ridge across the stream, hoping to reach the terrace of an old glacier now extinct, to which the solitary burrhel appeared to be heading. A strenuous climb showed us that we had been mistaken, for it had joined four others, and the five were browsing along a ridge still further south, almost above the Dharansi slopes. We moved up the ridge which bounded the glacial terrace on which we stood, reached another much larger boulder-strewn terrace, whose 'Devil's cauldron' of confusion brought us to rest in the warmth of the morning sun, lovingly indulging in the ritual of a smoke.

Seldom have I felt smaller than when the alarm whistle of those burrhel brought us scampering to our feet. They stood poised and inquisitive five hundred yards away a few hundred feet above us, the male's huge head silhouetted against the morning sky, while the ewes grazed unworried nearby. Leaving D.S. to hold their attention I silently slid between boulders, and after an hour's stealthy

stalking, came out on the 15,500-foot ridge which forms the watershed between the Rishi and the Dhauli. This was directly above the burrhel's last position, and being a col, they would be likely to cross it. It was covered with old, hard snow and I slithered over it in my rubber shoes, crawling up the ridge to try and catch a glimpse of them. For the second time that day, they saw me first, whistled, sneezed and snorted. A small ewe crossed the ridge above the col, followed by the other females. I lay hid behind a boulder, and at last the ram appeared. He looked around and down into the Dhauli valley and the Tolma gad. He was the largest head of the trip, and D.S. again claimed its poor summer-skin as a reward for my using his khaki cap while stalking.

Our last night at Dibrughetta was spent in discussing the morality and philosophic justification of hunting, and the mists parted early the next morning to disclose the Curtain ridge, down which a stonefall clattered. A brownish animal crossed a boulder-filled gully, and it was assumed by all hands that the animal was a thar. The porters had often promised thar on this remarkable ridge and it was little use arguing that thar were a hundred times more difficult to shoot than burrhel, and that there were a hundred times more of the latter, for this was put down as plausible sophistry to conceal the greater lure of fresh vegetables and 'chang' which awaited us at the Dharansi camp.

Feeling like a martyr heading for a wholly superfluous crucifixion, I left with D.S. for the Curtain, promising to meet the others on the top of Malatuni. The musk-deer, for such the animal observed from the alp turned out to be, bounded out from some juniper on the slab ridge as we neared it. The range was two hundred yards, and as it surmounted a false ridge it gave an excellent shot at a hundred yards.

'Babuji, shoot!' That musk-deer are prohibited made little appeal to D.S. The musk would have sold for at least eighty rupees in Chamoli.

We scaled the Curtain to find that several thar, judging from the tracks, had preceded us that morning. The ridge overhung on the other side. The Curtain is actually a series of such ridges, overhanging on one side and sloping steeply on the other. We crossed three such minor ridges and sat down to rest on a particularly steep one. D.S. went down the crest of the overhang, casting stones on either side. When he was some five hundred feet below me, he suddenly sprang back and pointed at something which the overhang hid from me. I scrambled down the sharp crest to join him, and saw nine thar clambering up a steep chimney directly below the

Malatuni peak. We determined to give chase, and rejoin the others from the Dharansi side of the Curtain. When the last two of the herd, and these were the darkest and therefore likely to be the males, had disappeared up the chimney, we began a laboured descent down their tracks. At an earlier camp-fire discussion we decided that barefooted humans could follow burrhel where thar went. But thar have a mountaineering reputation and our attempts at going where this herd had gone made a mockery of our conceit.

We went ahead till the base of the final chimney where D.S. took off his shoes, caught what looked like three blades of grass and inserting his big toe in a half-inch crevice surmounted the first obstacle. I could not follow, but managed with his help to climb up a neighbouring crack. Beyond this the chimney slanted at an angle of 45 degrees, with the slabs arranged like a receding pack of cards, which ruled out all but pressure holds. D.S. went up it like a rock lizard but the rifle forced me to find better holds as I had to stay outside the chimney's upper projection. A loose slab, under which I inserted my right hand while the left searched for another such hold, pried loose and went clattering down into the nether regions of the chasm. D.S.'s hand rescued me in time, as I clung to the mountain for a few breathless seconds. It was a close thing, and my hand shook when we lighted our pipes after surmounting the chimney.

We peered anxiously at the ledges and cliffs across the deep chasm below us. Far below it broadened out to disappear in silver birches above the lower section of the Rishi gorge. We finally sighted the thar on a ten-foot ledge with only one darker animal among them. As both sexes have horns, though the males are considerably bigger and broader, it was hard to distinguish between them except as to shade. One thar seemed engrossed in watching the progress of a Himalayan tree-creeper as the bird purposefully and methodically scanned the cliff-face for insects : he moved his head up and down as the bird crept up or flew down the cliff. D.S. soon tired of watching this, and nudged me to shoot. Picking out the biggest and brownest animal, I dropped him at the second shot. He rolled down the terrace and plunged from sight into the chasm. We did not even hear the thud of his fall, and but for the evidence of our eyes would have ascribed the whole incident to faulty vision. The rest of the thar went sneezing and scrambling up the impossible cliff, snorting down at us for minutes. Two hours later we fetched up above an overhang under which the stream boiled and saw the thar wedged in between two boulders. It was manifestly impossible for us to carry him back and after building a cairn about

him we returned to camp. Dharansi, the camp-site for the day, was four thousand feet above us, hidden behind ridges and the all-pervading afternoon mist. The maze of ridges, chimneys, and false crests proved too much even for D.S.

As night moved on, we stopped under an overhang where a musk-deer had fallen prey probably to a snow leopard. We had eaten nothing since 'chota hazri' and a night out in such circumstances was an appalling prospect. D.S. was for once apathetic and unhelpful, lost in muttered prayers to his many gods. We climbed doggedly on, removing shoes and socks at difficult patches of wet rock, putting them on again to save them from frost and laceration on sharp stones and the stalks of dwarf rhododendrons. It was long after dark when we received an answer to our yodels and whistles. Hot chocolate and a warm stone for the feet restored our spirits and gay company and pleasant chatter rewarded our day's efforts.

The clouds rose in monsoonal mushrooms over Garhwal for the next three days. As always, we left the hills with sadness and a promise: sadness at departing and the promise of greater intimacy and even fuller joys some future summer.

MANA EXPEDITION, 1961

By BISWADEB BISWAS

MANA (23,860 feet) Expedition, 1961, was an obvious sequel to our success on Nandaghunti (20,700 feet) the previous year. The Nandaghunti Expedition, 1960, was the first of its kind ever organized from Bengal by young amateur Bengali climbers. Its success aroused immense enthusiasm, which encouraged us to prepare an ambitiously elaborate plan for our next mountaineering adventure. Our aim was to make an all-out attempt on Mana by its northern bastion. We planned to take also a few scientists with us to study the Dhauli Valley and the East Kamet Glacier from its confluence with the Raikama Glacier. With three scientists, two press representatives, one physician and one transport officer, the total number of members came to fifteen. There were twelve Sherpas, led by Ang Tsering of Nanga Parbat. The expedition was generously financed by Sri Asoke Kumar Sarkar, Editor and Director of the Bengali daily, *Ananda Bazar Patrika,* who provided funds for our Nandaghunti Expedition the previous year.

The expedition left Calcutta on August 15th, 1961. We were held up owing to the inclemency of the monsoon. Normally, it takes only a day by bus from Rishikesh to Pipulkoti and two hours more to reach Joshimath, some twenty miles beyond. In our programme three days were provided for this part of the journey, but it was on the tenth day, instead of the third, that we were at last able to reach, not Joshimath, but Pipulkoti. This was due to frequent landslides all along the bus route.

At Pipulkoti we had to procure at much higher rates the entire supply of our foodstuffs and porters for the transport of five tons of luggage to the proposed site of the Base Camp, more than eighty miles away near Vasudhara Tal.

The trek from Pipulkoti to Niti (11,100 feet), the last human habitation on this side of the Indo-Tibet border, was eventful. We were very often overwhelmed by the hospitality shown to us by the Tolchas and Marchhas inhabiting the Dhauli Valley. They are generous and simple hill tribes. Taking a well-earned rest for a day at Niti, we followed the Dhauli by its right bank up to Shephuk, about seven and a half miles away from Niti. From Shephuk the trade route to the Niti Pass runs east of our route to the East Kamet Glacier across the roaring Dhauli. To cross the turbulent Dhauli

with the help of a log of wood which had to be carried from a distance of about two miles was a hard job. The first stage of the Mana Expedition was completed on our arrival at the Vasudhara Tal, after three more days of arduous trekking over the boulders.

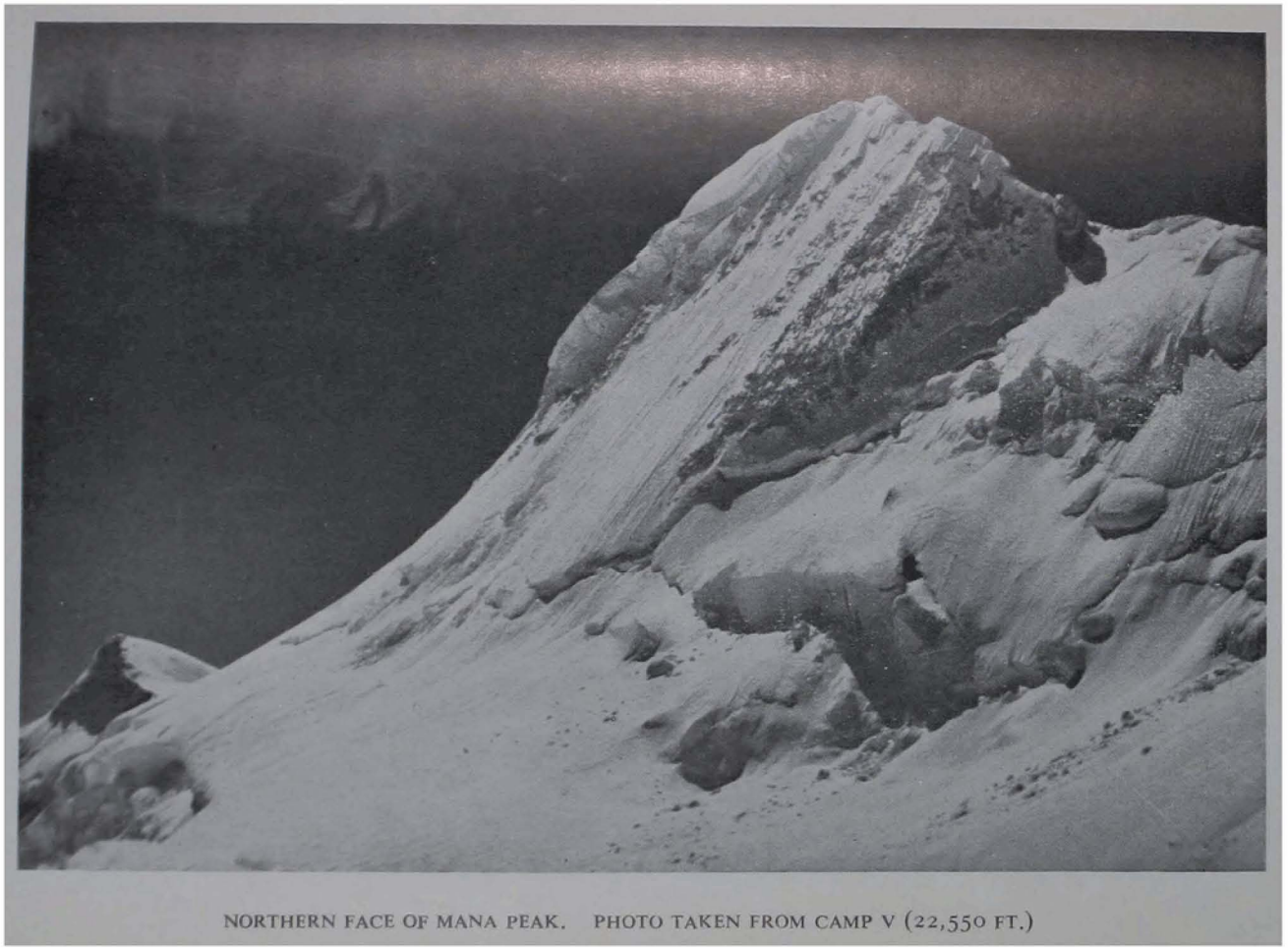
The Base Camp was pitched at an altitude of 15,700 feet, ten days behind the scheduled date—September 5th. We could not, therefore, afford to lose a single day more. Hence, while the rest of us were busy repacking our luggage camp-wise, two members, Gauranga and Subimal, with two Sherpas went to select the site for our first camp on the E.K. Glacier. From Vasudhara Tal the E.K. Glacier goes northward for about a mile, then detaching itself from the Raikama Glacier runs westward for about five miles when it takes a sharp bend to the north and ends in the southern wall of Kamet. Though the track was extremely hazardous with boulders piled up one on the other, the advance party was successful in finding a good site for the first camp at 16,700 feet, somewhere midway of the E.K. Glacier. On September 8th the entire party carried loads to Camp I. Two members, Madan and Prodyot, with two Sherpas were selected to find the route to the second camp, somewhere near the bend, which we called afterwards Jayal bend. Till now the route followed the course of the lateral moraine on the E.K. Glacier which is about 100 feet to 125 feet above the level of the glacier. But immediately after Camp I the course of the moraine became very erratic and the party had to descend to the glacier. If it was a little easier on the glacier it proved also to be much more dangerous. With icy streams, yawning crevasses and huge boulders of rock and ice, climbing on it was a veritable nightmare. However, Camp II was pitched on September 9th and Camp III on the 12th at an altitude of 19,600 feet by Gauranga and Dilip along with two Sherpas at the foot of the rocky wall linking Mana with Kamet. During all this time loads were being regularly ferried from Base Camp to the higher camps by the other members and Sherpas of the team. Upward from Camp III the approach to Mana went south-west, while that to Kamet went roughly north-west. We were at last on the untrodden face of the giant Mana.

Nimai, following the map, went ahead on the 15th across the bergschrund to select a site for Camp IV. A severe gale was raging on the north wall of Mana. However, after tackling the rock-wall by fixing rope on it, the party went forward on Mana. From the site of Camp IV (20,500 feet) Nimai could appreciate the mountain's defences. The full length of the north-east wall was a sheer precipice rising some 5,000 feet above, from where avalanches were seen coming down frequently. The northern ridge of the

mountain was literally knife-edged and would not 'go' for such a great length. If there was any chance, then that chance must lie beyond the ridge on the north-west side of the mountain. It was obvious that a Camp V would have to be pitched somewhere beyond the ridge.

The quest for the site of Camp V somewhere beyond the ridge was launched on September 19th by two members, Dilip and Gauranga, and three Sherpas. The quest went on for three successive days under great hardship, but was of no avail. Rope was fixed during the first two days throughout almost the entire length of the wall amidst a raging blizzard which prevented us from scaling the ridge. On the fourth day the members of Camp IV spent the day resting and on the fifth day there was a lull in the storm. Camp V was at last pitched on September 21st on the north-west ridge of Mana at an altitude of 22,550 feet by two members, Madan and Gauranga, and three Sherpas. The lull continued during the night and was followed by a calm morning, when the inmates of Camp V got ready to continue their efforts to reach the top. After going some 35 lengths of the rope, hacking steps on the hard ice, the party found it impossible to climb further on this wall of the ridge, the wall beyond having simply caved in. The peak, however, seemed to be tantalizingly near. The party tried to reach the ridge by retracing their steps and then climbing for some time till they were confronted by a sheer rock-wall of about 150 feet. There was no hold of any kind on the smooth rock nor any crack in which to drive in a piton. The peak was only some 500 feet above, but though it was only 3 p.m. and the weather was fair, the party thought it wise to turn back. After overcoming so many obstacles the determined assault team had to give up their attempt with only a 150 feet rock-wall between them and their goal.

A second assault was staged on September 26th by two members, Biswadeb and Prodyot, and two Sherpas. The second assault team left Camp IV on September 25th early in the morning and reached Camp V in a raging blizzard late that evening. The blizzard howled around the camp throughout the night and did not abate in the morning. It was obvious that the north wind had set in and was not likely to subside before the end of the winter. There was no other alternative but to come back, safe and sound, after climbing the north-west wall of Mana to a height of about 22,550 feet and to say good-bye to the mountains for the time being.



NORTHERN FACE OF MANA PEAK. PHOTO TAKEN FROM CAMP V (22,550 FT.)

THE CONQUEST OF MOUNT EVEREST BY THE CHINESE MOUNTAINEERING TEAM

By SHIH CHAN-CHUN

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1. On May 25, 1960, three young Chinese mountaineers reached the summit of Mount Everest, accomplishing the task of conquering the world's highest peak from its difficult northern slopes for the first time in mankind's history.

2. It has been considered by many mountaineers of other countries that Mount Everest is unscalable from its northern side.[1] But the three young mountaineers, Wang Fu-chou (25-year-old geologist from Peking, Master of Sports and member of the Chinese Communist Party), Konbu (27-year-old People's Liberation Army man of Tibetan nationality, First Grade Sportsman) and Chu Yin-hua (25-year-old lumberjack from Szechuan Province, Master of Sports and Communist Party Member), successfully accomplished this most difficult feat. The three victors had had at most two years of mountaineering experience behind them.

3. Besides these, twenty-five other Chinese mountaineers reached altitudes of 8,100 to 8,700 m., which is also a very important achievement.

4. The Chinese Mountaineering Expedition to Mount Everest consisted of 214 men and women, one-third of them being of Tibetan nationality. Among these were workers, peasants, P.L.A. men, serfs who had just been freed from serfdom in Tibet, teachers, students, scientific researchers, medical workers and government functionaries from various parts of the country. In the expedition, there were seventeen Masters of Sports, eighteen First Grade Sportsmen and a greater number of Second Grade Sportsmen. The whole group averaged 24 years of age.

5. Before ascending Mount Everest, we had carried out a long period of careful preparatory and organisational work. An overall plan of making reconnaissance in 1958, carrying out training in 1959, and ascending Mount Everest in 1960, had been mapped out.

[1] This is, of course, absurd. As *La Montagne* pointed out with just acerbity, Everest is inaccessible to Western mountaineers because it is forbidden to them by political powers, and for no other reason.

6. In November 1958 we sent a reconnaissance group to the foot of Mount Everest for the first reconnaissance. Later, our meteorological group and other scientific researchers also entered the area. The meteorological workers set up a weather observatory in the mountain area and formed a meteorological information network extending from Peking right up to the massif. They accurately forecasted the weather most suitable for the attempt on the summit. In the meantime, exhaustive investigations were conducted by the geologists, topographers, hydrologists, zoologists, botanists, surveyors and altitude physiologists. All this provided an important guarantee for the selection of a safe route and the mapping out of our plan of marches.

7. In 1959, we arranged a physical training programme for our members, giving them all-round training in technique, physique and adaptability to altitudes. In February 1959 we organised a climb of the North-east peak of the Nyenchin Tangla Range in Tibet (6,177 m.). In July the same year, a combined Chinese men's and women's mountaineering team successfully climbed Muztagh Ata (7,546 m.), during which our women mountaineers set up a new women's world record in mountaineering.[2]

8. After the ascent of Muztagh Ata, our members continued training in physique and technique in accordance with a unified plan after returning to their own jobs. As a result of this all-round training, many of them had improved physically and technically.

9. At the same time, we carried out enquiries into the data compiled by the expeditions of other countries in climbing peaks above 8,000 m., especially those concerning the ascent of Mount Everest from the southern and northern sides. According to the information from various sources and our findings during on-the-spot reconnaissance and weather conditions, we worked out a plan consisting of four operations, the first three operations being acclimatisation marches and the fourth the final assault on the summit. To be circumspect, we also prepared two alternative plans, one consisting of three operations and the other of five. In addition, thorough consideration and meticulous preparations were made against all possible difficulties which might crop up during the ascent, including even the smallest detail such as the use of matches at altitudes.

10. After the mountaineers assembled, special training was taken up with a view to tackling the Second Step, which had been

[2] This was the highest summit reached by women, not the highest point. Mme. Claude Kogan reached a greater height on Cho Oyu. (*See A.J.*, 64, 78, 258.)

described as an insurmountable barrier, besides making various preparations. According to experiences gained from all sides, we improved some of our equipment and successfully carried out training in climbing long stretches of precipices with an incline of 80 degrees.

At the Base Camp

11. On March 19 this year, the main party of our expedition arrived at the Base Camp (5,120 m.), at the foot of Everest, which was located in a valley off the snout of the Rongbuk glacier. The Base Camp had been established by the advanced party of the expedition, which, battling against hurricanes and snowstorms for half a month, had also set up Camp 1 (5,400 m.) and Camp 2 (5,900 m.) and Camp 3 (6,400 m.) and stored up sufficient equipment and provisions there. All this greatly facilitated the climbing party's advance to higher altitudes. We were also supplied with a steady flow of large quantities of high-quality equipment and all sorts of concentrated food and fuel from various parts of our country.

12. At noon on March 25 the weather was exceptionally fine in the Everest area, as all members of the team gathered in the clearing of the Base Camp to watch our national flag hoisted to the strains of our National Anthem. Every one of us had the same will: 'We will never give up until Mount Everest is conquered.'

The march on the world's highest peak thus began.

13. Along the route opened up by the scout group, our climbing party reached Camp 3 on March 27 without any difficulty.

March towards the North Col

14. On the following day, as the main climbing party was leaving Camp 3 to return to the Base Camp, a six-man scout group led by Hsu Ching set out to reconnoitre the route to the North Col.

15. The North Col (7,007 m.) is actually an undulating glassy ice slope with a height of 400 m. It stands like a wall athwart the only route leading to the summit. Our climbers rightly called it 'the Gateway of Everest'.

16. The steep, precipitous slopes of the North Col are covered by unfathomable névé. Numerous traces of ice and snow avalanches indicate that this is one of the most dangerous parts of the Everest area.

17. When the scout group set out, hurricane winds were raging round the Everest massif. The North Col was shrouded in dense fog.

Tornadoes tore past the slopes and churned up huge columns of snow. Members of the scout group were forced to pitch a temporary camp at a spot 6,600 m. and wait for good weather. The weather improved somewhat the following day. With their accurate judgment and excellent mountaineering technique the scouts inched their way up, cutting each step forward with their ice-axes. Danger lurked at every step of their march. A slip might send them hurtling down to the bottom of the ice and snow slopes several hundred metres below. A moment's slackness could cause a fall into a deep crevasse. At 6,850 m. they camped upon an 'Ice Chimney' with an incline of over 70 degrees. They decided to climb up to the top of the North Col through this ice chimney.

18. Masters of Sports Hsu Ching, Liu Ta-yi and Peng Shu-li blazed the trail. They employed a complex combination of ice and rock climbing in scaling the ice crack. After a few minutes they were soaked to the skin with sweat.

19. When the reconnaissance group clambered to a spot 50 m. below the top of the North Col, it was getting dark. After grappling with severe cold, ice and snow for ten hours on end, they had at last found a safe route through the 'gateway of Everest'. Though it lay across four ice crevasses and four stretches of steep snow and ice slope, the route was free from possible ice and snow avalanches. Thus we victoriously concluded the first acclimatisation march which lasted from March 25 to 31.

20. Between April 6 and 14, we carried out the second acclimatisation march, during which we intended to reach the top of the North Col and to reconnoitre the route above 8,000 m. Since the North Col is very precipitous, a group of mountaineers led by Hsu Ching was sent to build a safe road to the Col before the main climbing party set out. They cut steps on the steep icy slopes, rigged up light ladders on perpendicular ice walls, and spanned the crevasses with rope bridges. This passage later played a very important part in our fight to conquer Mount Everest. It was along this passage that the main party reached the top of the North Col. During this march, though our reconnaissance group reached only 7,300 m., they nevertheless succeeded in reconnoitring the route leading to altitudes above 8,000 m.

The Third March

21. On April 25, the climbing party set out from Base Camp on their third acclimatisation march. Five days later, the party left the camp at the North Col for higher altitudes. Up to that time, the highest altitude reached by Chinese mountaineers was 7,590 m.

It was attained by five other mountaineers and myself in the conquest of Minya Konka in Szechuan Province, 1957.[3]

22. When we left the North Col in the early morning of April 29, the sun was shining brilliantly. But when we were approaching 7,400 m. a hurricane suddenly came out of the blue. The mercury plummeted to 37°C. below zero. Braving the piercing icy winds, the climbers advanced inch by inch, sometimes in soft powdery snow and sometimes on hard granular snow. It was so exhausting to advance in such conditions that every few steps we would sprawl flat to take shelter from the freezing winds.

23. At dusk the weather worsened, and the temperature continued to drop. Despite our high-quality mountaineering clothing, we shivered with cold. Our breath froze and formed white frost round our mouths. Some climbers' noses turned blue with cold. Under such unfavourable conditions, we pressed on steadily. That night we camped at 7,400 m. The next day we were still detained there, due to the tearing wind. On the third day we reached the foot of a rock wall 7,600 m.—a new altitude in China's mountaineering history.

24. On May 2, Hsu Ching, Lhakpa Tsering and Migmar (both of Tibetan nationality) and I started off to chart a route to the summit. At midnight we reached 8,100 m. and pitched our tents. Shortly after this, several other members arrived. Early next morning, Wang Feng-tung, Shih Ching, Lhakpa Tsering, Konbu and I left the camp at 8,100 m. and reached 8,500 m. on the same day.

25. After leaving three persons to set up a camp at 8,500 m., Wang Feng-tung and I continued to climb. Before long, we came upon the last technical hitch on the route to the summit, that is the Second Step (8,570–8,600 m.), which had been regarded by Western mountaineers as unscalable. It is a sheer and slippery rock wall. After searching around at the bottom of the rock wall, we decided to ascend along a razor-edge ridge hardly a metre wide and then turn to the right to continue the climb up the step. We pressed on with great determination and care, boldly using the necessary mountaineering techniques. At 21.00 hours Peking time we reached the foot of the three-metres-high vertical slab at the top of the Second Step, 8,600 m.

26. It was already dark, so we decided to stay there for the night with a view to reconnoitring a route to the summit from this favourable position next morning. We dug a small hole in a snow-filled

[3] *A.J.*, 64, 194. In case the use of the term 'conquest' should mislead the reader, we remind him that this was the second ascent of Minya Konka.

crevice of the rock wall, huddling together and waiting for dawn in a searing cold of over 30°C. below zero.

27. Our physical condition at that time was perfectly all right except for sheer exhaustion. In order to save oxygen, we did not use our breathing apparatus throughout the night. The successes achieved by us on this occasion and later by other members in withstanding the lack of oxygen indicated that the serious training for adaptability to high altitudes we had undertaken and our early start during the present expedition were very fruitful.

28. Early next morning, there was not a single flake of cloud in the sky and the peak of Everest appeared clearly before our eyes. Having found a practicable route to the summit, we began to descend. Together with all other members, we returned safely to the Base Camp.

29. In mid-May, a marked change was discernible in the weather of the Everest area. Thick white clouds often floated above the snow-capped peaks, the Rongbuk river began to thaw, the frozen earth softened and Himalayan vultures hovering around the peaks increased in number. All this was a sign that the monsoon would soon arrive.

30. After carefully studying the weather forecasts, we calculated that the period between May 19 and 25 would be the last phase of good weather before the monsoon, and decided to assault the summit during this stretch of time.

31. From May 14 on, braving bad weather, the supply groups set out from Base Camp to carry equipment and provisions to the altitude camps right up to 8,500 m.

The Assault on the Summit

32. At 09.30 hours Peking time, May 24, Wang Fu-chou, Chu Yin-hua, Konbu and Liu Lien-man left the assault camp at 8,500 m. and embarked on the last 340 m. of their march to the summit. They carried with them rucksacks, sleeping-bags, ice-axes and breathing apparatus. Before long, they reached the foot of the Second Step at 8,570 m. The four courageous Chinese mountaineers pressed doggedly ahead in a cold of 30°C. below zero.

33. When they reached the three-metres-high vertical slab of the Second Step, Liu Lien-man moved ahead to blaze the trail. He made use of every available finger- and toe-hold to inch his way up this wall of rotten rock by sheer strength. But four times he fell back. Finally he decided to use the method of 'courte échelle' (short ladder).

34. He crouched down slowly on a piece of rock, big enough

for one person only, and offered Chu Yin-hua a leg up on his shoulders. At this altitude, even the slightest movement would consume a great deal of strength and energy. He trembled all over, short of breath, but he clenched his teeth and steadily stood up, with much heroic effort. Liu helped Chu Yin-hua to the top of the slab. Finally, with the help of a rope paid out by Shu from above, the three others climbed up the cliff one after another. Only when they had all reached the top of the Second Step did they find that it had taken them three hours to climb this three-metre slab.

35. At this time, the pressure gauges of their oxygen apparatus indicated that their reserves were running low. Liu Lien-man was very weak owing to his utter exhaustion and was stumbling every one or two steps. At 8,700 m. above sea-level he could scarcely proceed.

36. The three Communist Party members, Wang Fu-chou, Chu Yin-hua and Liu Lien-man, and Konbu, then held a brief Party group meeting. It was decided that the assault group should advance to the summit as quickly as possible and Liu Lien-man should remain where he was.

37. After the three others left, Liu Lien-man, at the risk of his life, switched off his oxygen in a heroic, self-sacrificing spirit to save the last few dozen litres of oxygen for his comrades assaulting the summit.

38. It was getting darker and darker. Since they had expected to return to the assault camp before dusk, they had brought no lighting apparatus. In order to reach the summit before bad weather set in, they boldly decided to continue their march, taking advantage of the experience of night climbing gained in scaling Minya Konka in 1957. They had to pick out their way with the help of the twinkling stars and the reflection of the snow, and due to over-exhaustion they could only advance at a snail's pace, sometimes crawling on all fours.

39. When they came to about 8,830 m. their oxygen reserves ran out completely. They glanced at each other. It was Wang Fu-chou who spoke first: 'We are shouldering the glorious task of storming the summit. Can we turn back?'

40. 'Press ahead!' was the determined answer from Chu-hua and Konbu.

41. They discarded their oxygen apparatus and started on what must have been the most arduous and dangerous trek in mankind's history.[4]

[4] It is, perhaps, necessary to point out that we cannot endorse this extraordinary statement.—Editor.

42. Excessive panting, troubled vision, feebleness and other reactions to oxygen deficiency further slowed down their advance. It took them more than half an hour to tackle a one-metre-high rock. Despite all this, they encouraged one another and persistently pressed on.

43. After crossing a snow-covered slope in the east, they wound around to a rock slope in the north and continued their climb. At long last, the trio reached an oval-shaped crest between snow and rock—the summit of Mount Everest.

44. Looking around in the dim pre-dawn light, they saw all the other peaks in the Everest massif lying far below and there was no higher peak to be climbed. To the south of the summit there was white snow and to the north mainly grey and brown rock. It was 04.20 hours Peking time, May 25. The final assault on the summit of the world's highest peak had taken them a total of 19 hours, during which they had not a mouthful of food or water, except a piece of dried mutton and some ginseng soup which they ate as breakfast before leaving the assault camp.

45. With great excitement Konbu drew from his rucksack the five-star national flag and a small plaster bust of Chairman Mao Tze-tung, placed them on a boulder and secured them with small stones. Wang Fu-chou produced his diary and pencilled the following words:

46. 'Wang Fu-chou, etc., three men, conquered Mount Jolmo Lungma, 04.20, May 25, 1960.'

47. It was bitterly cold up there, and it took him several minutes to scribble these few words. Then Konbu tore the page from the diary and put it in a white woollen glove and buried it in a heap of small stones. They had a small cine camera with them, but it was too dark to take any shots.

48. As a souvenir, they picked up nine rock specimens to present to Chairman Mao Tze-tung. At 0.34 hours Peking time they began the descent. When they came back to 8,700 m. it was light enough so Chu Yin-hua turned back and took a few shots.

49. When the three returned to where Liu Lien-man was, Liu offered them the oxygen he had saved for them. All of them were moved to tears.

50. At 13.30 hours Peking time, May 30, they returned safe and sound to the Base Camp, together with all other members of the climbing party.

51. Summing up our conquest of Everest, we must in the first place attribute our victory to the leadership of the Communist Party and the unrivalled superiority of the socialist system of our country.

Without all this, we, the ordinary workers, peasants and soldiers, could never have succeeded in climbing the world's highest peak.

52. The victory of the Chinese mountaineering expedition is also due to the fact that we had followed the strategic thinking of Mao Tze-tung, that is to scorn difficulties strategically, while paying full attention to them tactically.

53. We also are grateful for the full support and encouragement given to our project by our six hundred million fellow-countrymen.

54. That we have won the achievement is also because we had drawn on the experience of the mountaineers of other countries, especially the advanced experience of Soviet mountaineers. Other guarantees for this success include the fidelity of our mountaineers to the Communist Party and the people, their confidence in the victory of the revolutionary cause, their collective spirit of solidarity, friendship and brotherhood which they had displayed to the fullest extent, their noble quality and communist style of sacrificing the self for the honour of the collective.

55. We also want to express our gratitude for the congratulations on our conquest of Mount Everest from its northern slope which we have received from all parts of the world. In his letter to Marshal Ho Lung, Chairman of the Physical Culture and Sports Commission of the People's Republic of China, the Right Hon. Lord Nathan, President of the Royal Geographical Society, wrote: 'The Chinese ascent of Chomo Lungma has aroused the admiration of all, not only in this country but throughout the world, for the splendid skill and courage of Chinese mountaineers. It is an achievement which will remain for ever a landmark in the history of mountain exploration!'

56. The Chinese mountaineers do not rest content with the achievements they have gained. We are determined to continue to improve our mountaineering technique and contribute our bit to the socialist reconstruction of our motherland.

Editor's Note

We are most grateful to Mr. Shih Chan-Chun, who has already twice contributed papers to this Journal, for his article. We would ask his indulgence for venturing some critical remarks below. We have felt it necessary to attempt some evaluation of the evidence afforded by this article (and by similar articles in Chinese and Russian publications) for several reasons.

First, the Chinese claim has been viewed with some suspicion in other reputable mountaineering publications, and Mr. Quentin

Pope, writing in the Indian weekly *Thought*, claims to have proved that the Chinese did not reach the summit of Everest.

Second, it is known that writers in 'Popular Democracies' are subject to some measure of control and that no doubt the entire veracity of an article is not a reflection on the author whose name is attached to it.

Third, the propagandist passages imply a propaganda intention, and propaganda is always suspect.

Fourth, this article (as are the others which have appeared) is notably weak on factual topographical detail as to route, etc., on the higher part of the mountain.

Fifth, the Chinese claim to have reached the summit in darkness, and they themselves stress the relative inexperience of the mountaineers concerned. It is very easy, even for experienced mountaineers, to mistake a subsidiary hump for a peak in darkness or in bad visibility. Furthermore, these climbers were extremely exhausted and suffering from oxygen-lack, hunger and thirst at the time.

Since Mr. Shih Chan-Chun's article is the evidence which we have to consider, we have printed it as received. A regular reader of this Journal will see that a number of statements or phrases have been allowed to stand which would have been pruned by the editorial knife in other circumstances. The only change that we have made throughout is the substitution of the name Everest for 'Jolmo Lungma', the name which the Chinese now use officially.[5] We feel it would only add to confusion over the name of this mountain were we to add this variant. The R.G.S. have given no sort of recognition to Jolmo; the accepted spelling in several mountain names is Chomo. Chomo Lungma has at least some ancestry behind it, but vigorously disputed, *see*, for example, *A.J.*, 65, 239-40. The telegram which the President of the R.G.S. sent to the Chinese used 'Chomo Lungma', but this had been altered in the article sent to us to 'Jolmo Lungma'.

We append some notes by Mr. Blakeney who has had the advantage of studying all the photographs submitted by the Chinese in company with a number of climbers who have been on the upper part of the northern side of Everest.

[5] The Chinese evidently attach great importance to this name. In a letter to Mr. A. K. Rawlinson, Mr. Shih Chan-Chun is moved to write, 'I would like to remind you that the correct name of this peak is Jolmo Lungma and not Everest.' The best practice, as evidenced by the Austrian and French maps and by the forthcoming R.G.S. map, is to use Everest for the mountain and Chomolungma for the whole massif.

It may be of interest to add some particulars culled from other reports. For example, in *Soviet Sport* of June 15, 1960, it is reported that ' At the base of a cliff the climbers found the body of a man dressed in a faded green suit of English cloth. These were obviously the remains of the English climber who, twenty years ago, tried to reach the summit of Chomo Lungma from the north. In spite of their fatigue and the blizzard the Chinese sportsmen dug a grave with their pick-axes and buried the English alpinist who died so tragically.' The point at which these remains were found is not fixed accurately, but according to this account was somewhere between 5,900 m. and 6,400 m.

There is an account of the final part of the climb by Wang Fu-chou in *China Reconstructs*, August 1960. This accords closely with Mr. Shih Chan-Chun's account, but it does mention that in the very last stages of the climb, ' The wind had died down and conditions were good.' Dealing with the summit, Wang Fu-chou says that ' the rocks on the north were grey ', whereas Mr. Shih Chan-Chun states that they were ' mainly grey and brown ', but at that time of night colours would not be very clearly distinguishable.

The *Peking Review* of June 7, 1960, prints an article by Kuo Chao-Jen ; it is not clear who this gentleman is, or even whether he was a member of the expedition. Large parts of this article are word for word the same as Mr. Shih Chan-Chun's. Mr. Kuo Chao-Jen also mentions that the wind had dropped when the point was reached that the oxygen ran out completely. At this stage, he adds, almost total darkness had descended.

Mr. Pope in the Indian journal mentioned above, dealing with the account of the final assault, points out that in spite of the good weather the party only ascended 65 m. in two hours[6] before reaching the Second Step, which took five hours.[7] At midday, he says, the party had only 300 m. vertically to accomplish, yet they did not reach the summit till the early hours of the following morning. (It will be noticed that Mr. Shih Chan-Chun gives no times between leaving the last camp at 09.30 hours Peking time and reaching the summit at 04.20 hours Peking time ; Kuo Chao-Jen gives us seven hours from start to top of Second Step, but no later times till 04.20 hours the next morning). Again, according to Mr. Pope, the assault

[6] Mr. Shih Chan-Chun merely says they reached the Second Step ' before long '. Mr. Wang Fu-chou and Mr. Kuo Chao-Jen agree on two hours from camp to Second Step and give the altitude gained as 70 m.

[7] Mr. Shih Chan-Chun does not give this time, but Mr. Kuo Chao-Jen does ; he also puts the height of the Second Step at 30 m. The party had therefore taken seven hours to ascend 100 m.

party on descending from the summit failed to find the top camp and spent the second night out somewhere in its neighbourhood.[8] The assault party had therefore been without food and without drink for two days during this climb and only suffered slight frost-bite.

It will be noted, incidentally, that there is a curious hiatus in Mr. Shih Chan-Chun's article between the return of his own party from the Second Step on May 4 until the morning of May 24, when the assault party, who have somehow already got to a camp at 8.500 m., take up the story.

There is another hiatus in Mr. Shih Chan-Chun's account between the moment of rejoining Liu Lien-man (*circa* 05.30 hours on May 25) and 13.30 hours on May 30 when the party returned to Base Camp. Wang Fu-chou and Kuo Chao-Jen are similarly silent, but an article in *Soviet Sport* signed by Go Chao-Zhen, Special Correspondent of the Sinhua Agency (whom we suspect to be the same as Kuo Chao-Jen) says that ' at four o'clock the daredevils returned to the advance base at a height of 8,500 m. and immediately went on '. It would be interesting to know how far they went on ; they had already been out over 30 hours at some altitude ' without a mouthful of food or water ' since they left the assault camp (para. 44).

Mr. Pope rests his case mainly on three points. The 23rd May was the day on which good weather was signalled to the Chinese party, on the basis of which they departed the following day for the summit. The 23rd May was also the day on which the Indian party on the other side of the mountain was defeated by bad weather.[9] Secondly, the Chinese party, who struggled for nineteen hours on the final stage to their climb, had already seven days' climbing behind them, of which three days were passed above 6,000 m. They had climbed straight from the foot of the mountain where they had only arrived in time for the attack.[10] On the eighth day they had

[8] This is not mentioned in any of the three articles cited. We have not traced Mr. Pope's source.

[9] Mr. Pope is in error here. The Indians established Camp VII on May 24, and on May 25, the day on which the Chinese claim to have reached the summit, they were compelled to abandon their attempt at a height of nearly 28,300 ft. because of the bad conditions. Even at the South Col the weather was ' not very good '.

[10] This does not appear from Mr. Shih Chan-Chun's account, but Mr. Kuo Chao-Jen is explicit. The assault party left on May 17 (presumably from Base Camp) and ' after seven days of difficult climbing ' established their Camp 8 at 8,500 m. on May 23.

proceeded from 8,470 m. to 8,882 m.[11] and re-descended to 8,470 m. on the ninth day, to continue the descent during the ninth night after a short snack. Thirdly, Mr. Pope points out the vague description of the topography of the upper part of the mountain and of the route taken and points to the absence of photographs.

Les Alpes, Monthly Bulletin of December 1960, writes as follows:

'Ce que nous avons pu lire au sujet de cette ascension—rappelons la rapport dit authentique de la revue chinoise *China Reconstructs* (août 1960, vol. IX, n° 8) sont des descriptions très générales, d'un caractère politique très marqué et avec des photos qu'on peut aussi bien prendre n'importe où dans le versant nord de l'Everest ou sur un sommet quelconque de moindre altitude.'

The Bulletin then points to variations in names and times as quoted by Chinese and Russian sources; we do not think these significant, regarding them as natural results of the transliteration of Chinese and Russian characters, and confusion over different standard times. The Bulletin concludes:

'Devant de telles constatations, il ne faut plus s'étonner si l'on a envie de mettre un point d'interrogation après la nouvelle de l'ascension chinoise de l'Everest.'

We agree. Relatively few ascents have been proved; they have been accepted because no grounds for suspicion arose. Occasionally, as with Mount McKinley, an alleged ascent is eventually disproved. Mr. Pope has not disproved the Chinese claims, nor have the Chinese proved them. The discovery of Mr. Mao's effigy on the summit could be decisive evidence.

Notes on the Photographs

The three photographs taken by the Chinese expedition will be studied with interest.

No. 1 is unmistakable, and may be compared with the picture in Professor G. I. Finch's *Making of a Mountaineer*, facing p. 314. The rocky outline to the right is clearly identified, and there are similar photographs in the possession of Professor L. R. Wager and of the Mount Everest Foundation.

No. 2 may be compared with No. 20a in H. W. Tilman's *Mount*

[11] The official height of Everest is 29,028 ft., equivalent to 8,848 m. In the article sent to us by Mr. Shih Chan-Chun he does not mention the height but it seems clear that the Chinese consider the mountain to be 8,882 m. high, since this figure is mentioned by Mr. Shih Chan-Chun himself in an article in *China Reconstructs* and also by Mr. Kuo Chao-Jen in an article in the *Peking Review*.

Everest, 1938. The dark rocky mass of North Peak in the background is obviously the same in both pictures.

No. 3, the crucial photograph submitted, is very unsatisfactory. It is the only one (out of eleven supplied) that is indistinct and it provides little convincing evidence of where it was taken. If the height claimed for it of 8,300 m. (27,231 ft.) is correct, the snowy foreground on to which the climbers are moving ought to have been taken near the junction of the route from the North Col and the North-east ridge, somewhat below and to the west of the North-east shoulder. On that assumption, the snowy patch might be that shown on the skyline, ten o'clock from the site of Camp 6, as shown in the illustration facing p. 264 in F. S. Smythe's *Camp Six*. But photographs taken across the face of Everest from approximately the position of this snow patch present a different appearance to that of the Chinese picture.

Apparently, the route taken by the Chinese climbers was via the North-east ridge and not across the face of the mountain. Unfortunately, paras. 22–24 are very vague as to their route; no particulars are given, and throughout there is an absence of the sort of detail one should have in order to judge of the claim to an ascent being made.

Professor Wager, who has visited the First and Second Steps on the North-east ridge of Everest, has inspected the photographs of the Chinese, and immediately on seeing No. 3 expressed the view that it was taken rather low down. He has now been through his own photographs taken above Camp 5 in 1933 at, say, 26,500 ft., and is of opinion that picture No. 3 was probably taken at about 25,000 ft. (say 7,620 m.), either at the top of the snow ridge running up from the North Col, or westwards of it, on the face of Everest. He suggests that behind the two climbers there is probably a good deal of dead ground, and that the snowy patches (and other features) on the line plan of plate No. 3 are the same as those shown on his own picture, reproduced here (No. 4). There is an odd foreshortening in the Chinese picture, and the absence of larger distinguishing features makes it impossible to accept plate No. 3 as, in itself, evidence of climbing above some 25,000 ft. On the extreme right of No. 3 there is what appears to be a small peak in silhouette which it is hard to identify.

Professor Finch has also seen plates Nos. 3 and 4 and agrees with Professor Wager's opinion.

A serious defect in the photographs supplied is the lack of any of those 'few shots' taken at 8,700 m. (28,544 ft.) to which

reference is made in para. 48. Nor is any photograph provided from the higher reaches of Everest that enables one to obtain a back-bearing on to other known mountains. In 1953 (*see A.J.*, 60, 200) a silly attempt was made in India to show that Hillary and Tenzing did not reach the summit of Everest; this absurdity could be easily refuted by back-bearings from the photographs taken by Hillary whilst on the top of the mountain. The Chinese have provided no such pictures; they explain that it was too dark, but not after they had descended some 500 ft. (para. 48). Their times are given in Peking time, which is about $2\frac{1}{2}$ hours different from Indian time. By the latter, they would have reached the top of Everest about 2 a.m. and left at 2.15 a.m. Hence the sun, in the region of Everest, and allowing for the descent to 8,700 m., they would have been taking photographs at 3 a.m. or a little later. It would be understandable if they had not attempted photography at this hour; what is lamentable is that they have not provided any of the photographs they say they *did* take at this altitude.

Furthermore, it is difficult to credit anyone with taking photographs at 28,000 ft. or more and not taking any that show their surroundings. The Second Step is one obvious object for the camera; the Chinese say they reached this not only on May 24, but also on May 3, when they stayed the night there (paras. 24–26). Although there was 'not a single flake of cloud' in the sky next morning, no photography is mentioned (para. 28). Views taken northward and eastward from the ridge of Everest would have given us recognisable peaks (Cho Oyu, Gyachung Kang, North Peak, Makalu, or, in the distance, Kangchenjunga, etc. etc.) that would have satisfied the requirements of critics.

In view of the uncertainty that attaches to plate No. 3, and to the lack of any more convincing photographs at the upper levels of Everest, it cannot be said that the Chinese have provided adequate evidence that they reached the summit of the mountain. This is not the same as saying definitely that they failed. But the evidence provided is poor. That they attained the North Col, and some distance beyond, is not questioned. But the story from para. 21 onwards is too dramatised, and too involved in braggadocio, to be satisfactory; the tale of any first ascent requires to be factual and exact, and this is not.

An American party is said to be planning an expedition to Everest; it is to be hoped that they find the statue of President Mao Tze-tung, for that really would be evidence of the success of the

Chinese in 1960. Until something of the sort is done, however, the Chinese claim, though not impossible, must be considered as *non-proven,* when judged by the photographs they have sent.[12]

T. S. BLAKENEY

A FURTHER COMMENTARY

The Chinese official account of their assault on Everest from the north in 1960 has already been criticised at length in the *Alpine Journal*[13] on the grounds that, to Western readers, the description of the final stages of the climb is unconvincing and is not supported by photographs. Mr. Blakeney has drawn attention to, but had only time to comment briefly upon, the photograph reproduced in *La Montagne,* February 1961, p. 9. This photograph is stated by the Chinese to have been taken at the height of 8,700 m. on the descent. It was not among those sent to the *Alpine Journal* by the Chinese.

There has now been time to analyse this photograph thoroughly.

The Tibetan foothills of Everest have of course been very thoroughly surveyed by the many British Everest expeditions between the wars. Thanks to the magnificent map of the Everest area published provisionally in 1960 by the Royal Geographical Society on the scale of 1 : 100,000, there is no difficulty in identifying all the major peaks in the Chinese photograph ; to proceed thence to the deductions made below is a matter of simple geometry.

To check the accuracy of the methods used, this geometry was first applied to the photograph taken in 1933 from Camp V (Ruttledge, plate 34). This gave a height of 7,900 m. for Camp V compared with the stated height of 25,700 ft. (7,833 m.).

The photograph in *La Montagne* analyses as follows:

(i) In the vertical plane three intersections suggest that the photograph was taken between the summit of Everest and a point 200 m. or 300 m. along the North-east ridge.

[12] (*Later note*). A far more satisfactory photograph is that in *La Montagne,* February 1961, p. 9. This is one of those said to have been taken by Chu Yin-hua at 8,700 m. (*see* their para. 48), looking north. It may be compared with plate 34 in Ruttledge's *Everest, 1933,* taken at *ca.* 7,835 m. These two illustrations appear to show several of the same mountains, particularly Khartaphu and Kharta Changri, the Chinese picture giving the impression of being taken at rather closer range (telephoto ?) but at a greater altitude.

It is much to be hoped that the Chinese climbers will publish *all* their high-altitude photographs ; it is these that will carry conviction, not mere pictures of séracs on the Rongbuk glacier, or of the North Col.

T. S. B.

[13] See notes by Editor and Mr. Blakeney, *A.J.*, 61, 36 *et seq.*

(ii) In the 'horizontal' plane no less than eight levels can be drawn from which it is possible to calculate the height at which the photograph was taken, assuming the accuracy of point (i) above. Of these the most reliable is the coincidence of the summit of Kharta Changri (7,056 m.) with the lowest point of the ridge running north-west from the peak familiarly known as 'Dent Blanche' (6,766 m.), i.e. at the col south-east of point 6,309 m. This gives a height for the photographer of 8,600 m. or, allowing for curvature of the earth but ignoring refraction, a height of 8,700 m.

The other seven observations depend upon calculations of the scale and slope of distant mountain faces where the lines of the summits of nearer peaks, such as Kharta Phu, fall upon them. These less trustworthy observations lead nevertheless to figures of the photographer's height which all lie between 8,500 m. and 8,850 m.

Giving each calculation an arbitrary weight according to the reliability of each of the assumptions, the weighted average of all eight comes to 8,700 m.

This is exactly the height at which the Chinese say their photograph was taken.

(iii) By studying the shadows it is possible to form a rough idea of when the photograph was taken. An intersection with a point on the glacier at the left-hand edge of the photograph suggests that the sun was about 5° South of East. On May 25 the sun in the early morning would be about 10° South of East. We cannot claim an accuracy for this observation within 5 per cent.

The average angle of the shadows in the vertical plane, at right angles to the direction of the sun, appears to be just over 30°. Assuming the photograph was in fact taken on the date claimed, this means that it was taken about two hours after sunrise, i.e. about 7.30 a.m. The Chinese state that the photograph was taken on the descent after they had left the summit of Everest at 2.35 a.m.

This photograph has been studied by the Royal Geographical Society and shown to Mr. E. E. Shipton. They have been good enough to tell us that in general they agree with our findings.

In the August issue of the S.A.C. monthly *Bulletin*, Dr. Jürg Marmet comments on the identification of the peaks as given by Professor Dyhrenfurth in the May number of the *Bulletin*. On reworking out his calculations as to the altitude at which the Chinese

photograph was taken, Professor Dyhrenfurth considers that it was taken from a height of 150–200 m. below the summit of Everest at 10.20 a.m. (Peking time, about 8.0 a.m. local time), but whether from the North-east ridge or from an aeroplane it is difficult to decide.

The Chinese report mentions that they took with them a small cine camera. It is interesting to note that the angle embraced by the photograph corresponds exactly to the field of view of an orthodox 8 mm. or 16 mm. cine camera with a lens of standard focal length.

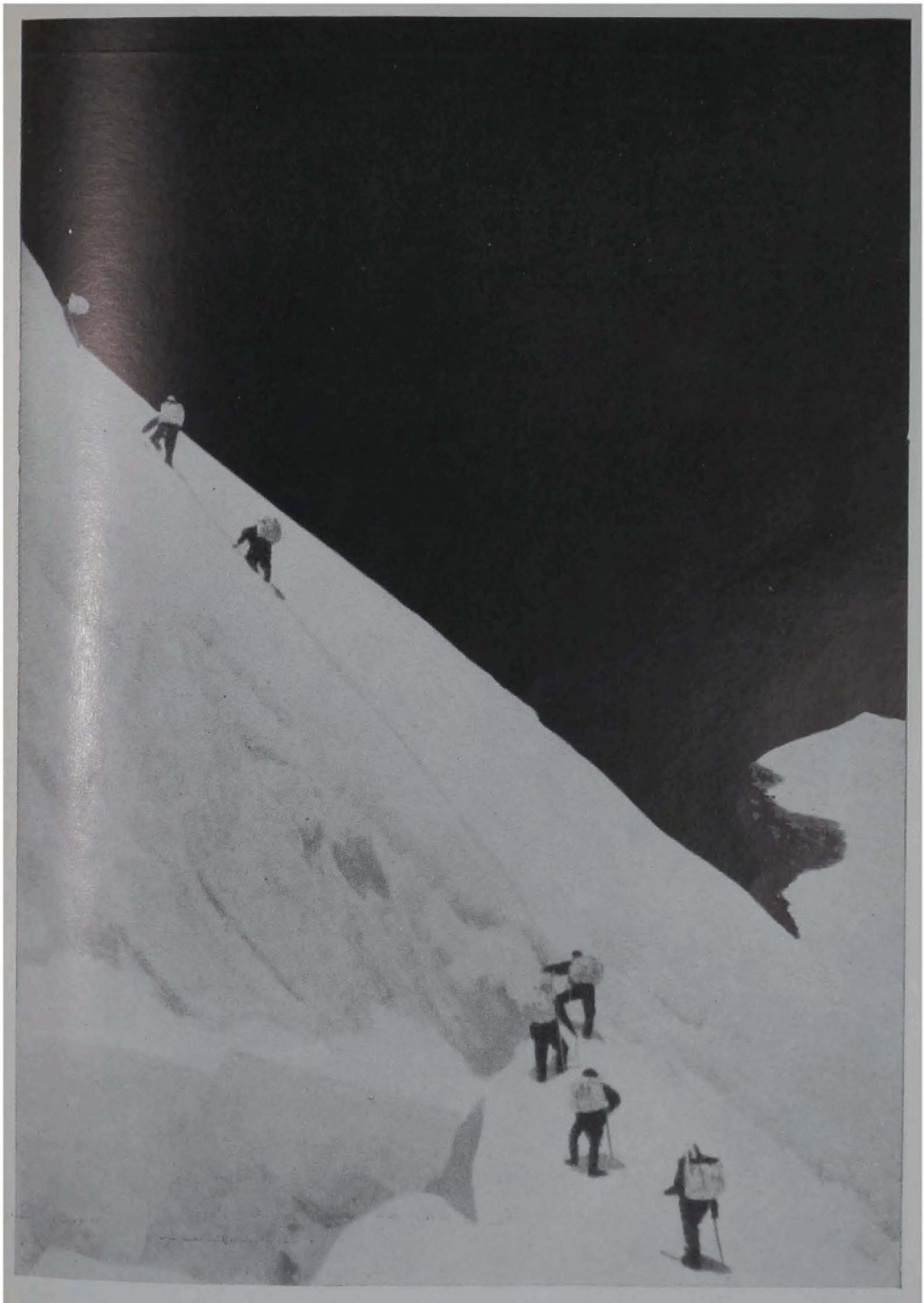
Finally, we have been able to examine also a photograph taken in the same direction from the summit of Everest by Hillary. This leaves no doubt whatever that the Chinese photograph was taken a very little way below the summit on the north side of the mountain.

Those who are sceptical will no doubt claim that there is still no proof of the photograph having been taken by the climbers ; it could have been taken by an unusually courageous airman flying 100 ft. or so above the second step.

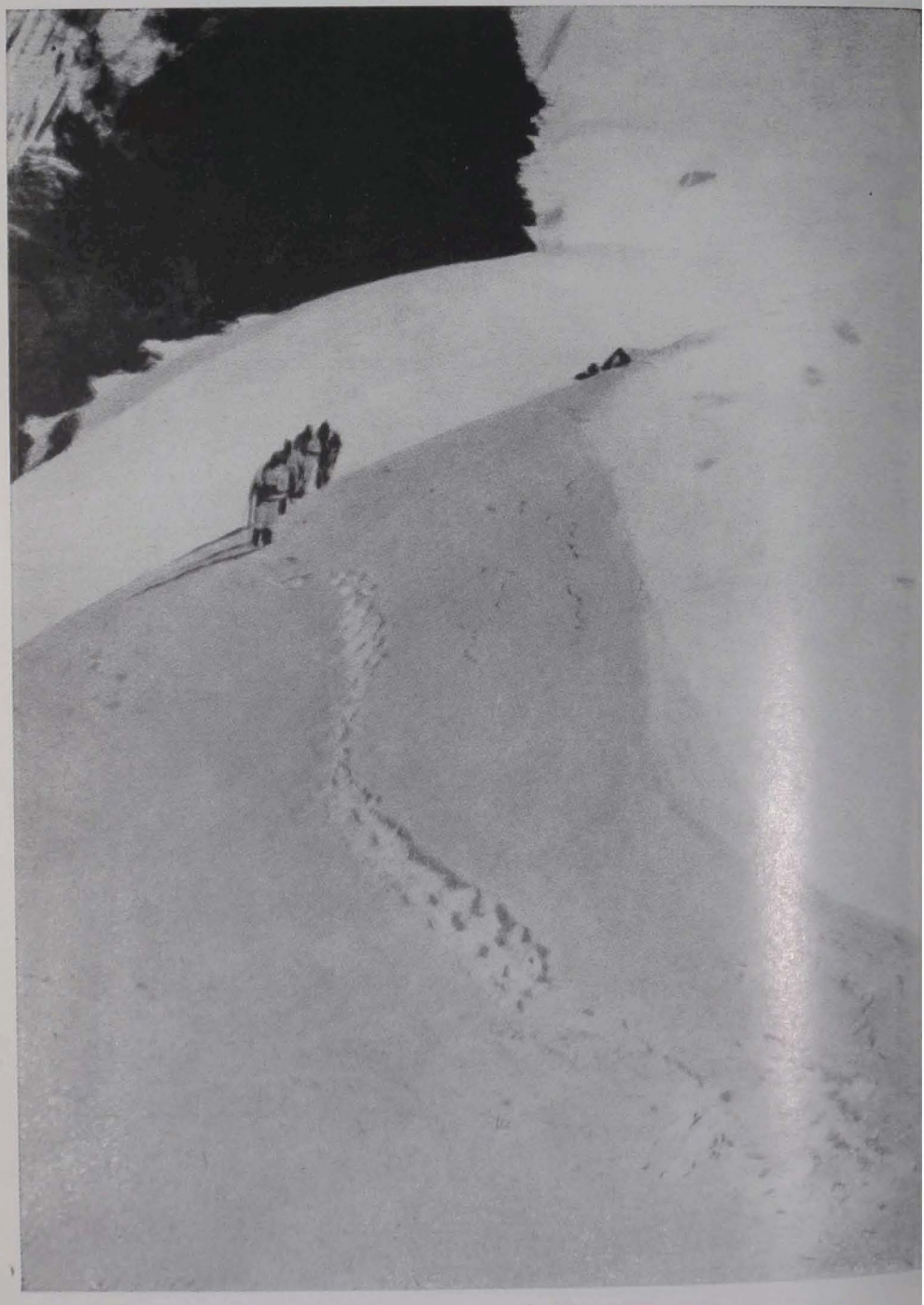
It is significant that the Chinese are curiously reticent about the slowness of their descent. It seems that they took five hours to descend 150 m. from the summit, and over five days to descend 3,580 m. to the reunion with their companions at Base Camp. This descent is not described and no mention is made of bad weather.

Nevertheless, one might give the Chinese the benefit of the doubt in the matter of weather conditions on the final climb. They started from their 8,500 m. assault camp on May 24 and claim to have reached the summit at 2.30 a.m. local time the following morning. The Indian expedition report ' a perfectly calm day ' on May 24 (*A.J.*, 66, 25), and it was only in the early hours of the following morning that a high wind blew up ; they turned back on account of extreme cold and driven snow. A real ' monsoon ' deterioration did not set in until May 26 (*A.J.*, 66, 26). In these circumstances of high wind it is not inconceivable that the Chinese could have fought their way down from the summit, nor is it inconsistent with the Indian weather report that the Chinese photograph should show clear sunshine on the lower peaks. It would be interesting to know how the weather on and after May 26 hindered their descent to the North col.

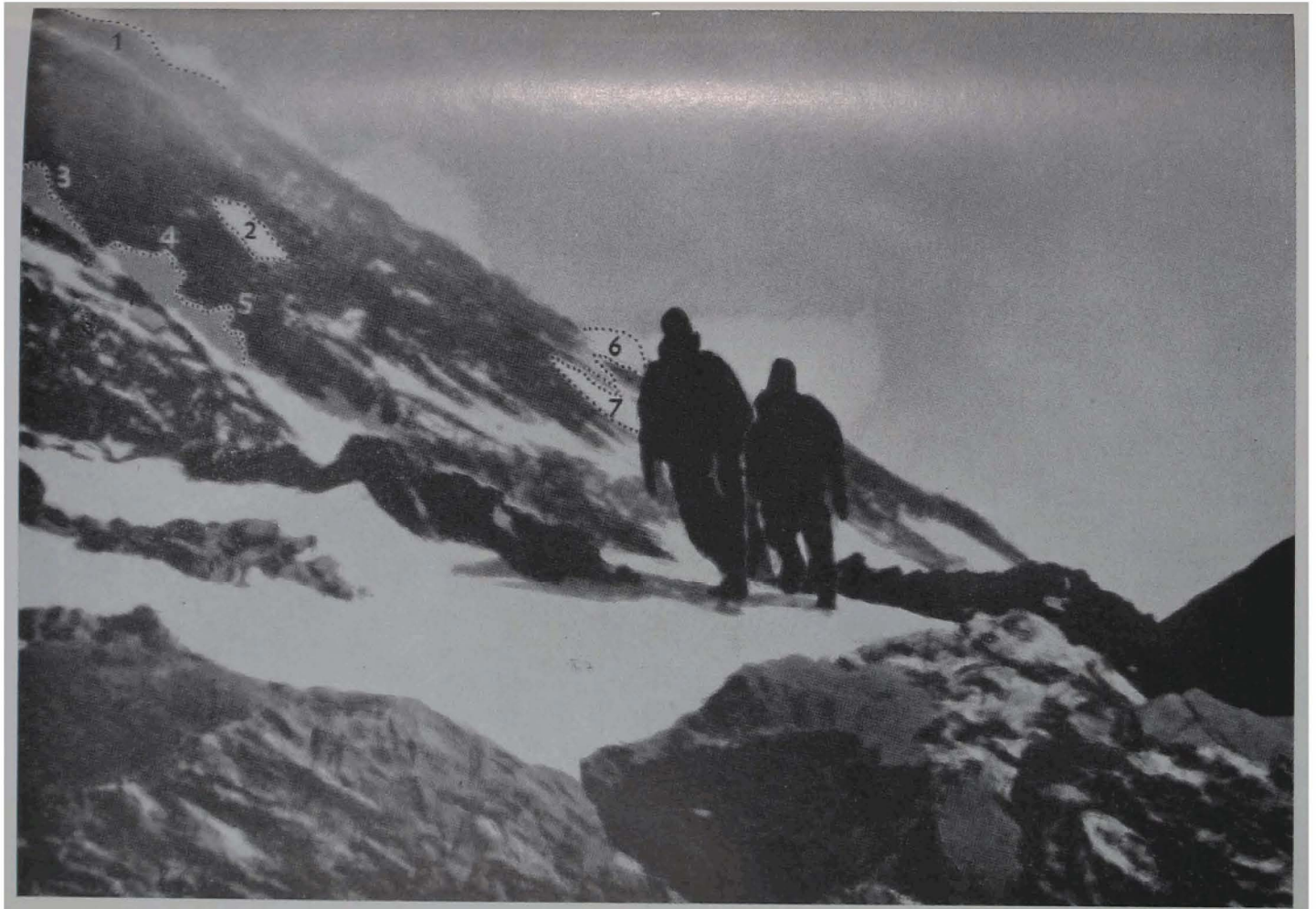
B. R. GOODFELLOW



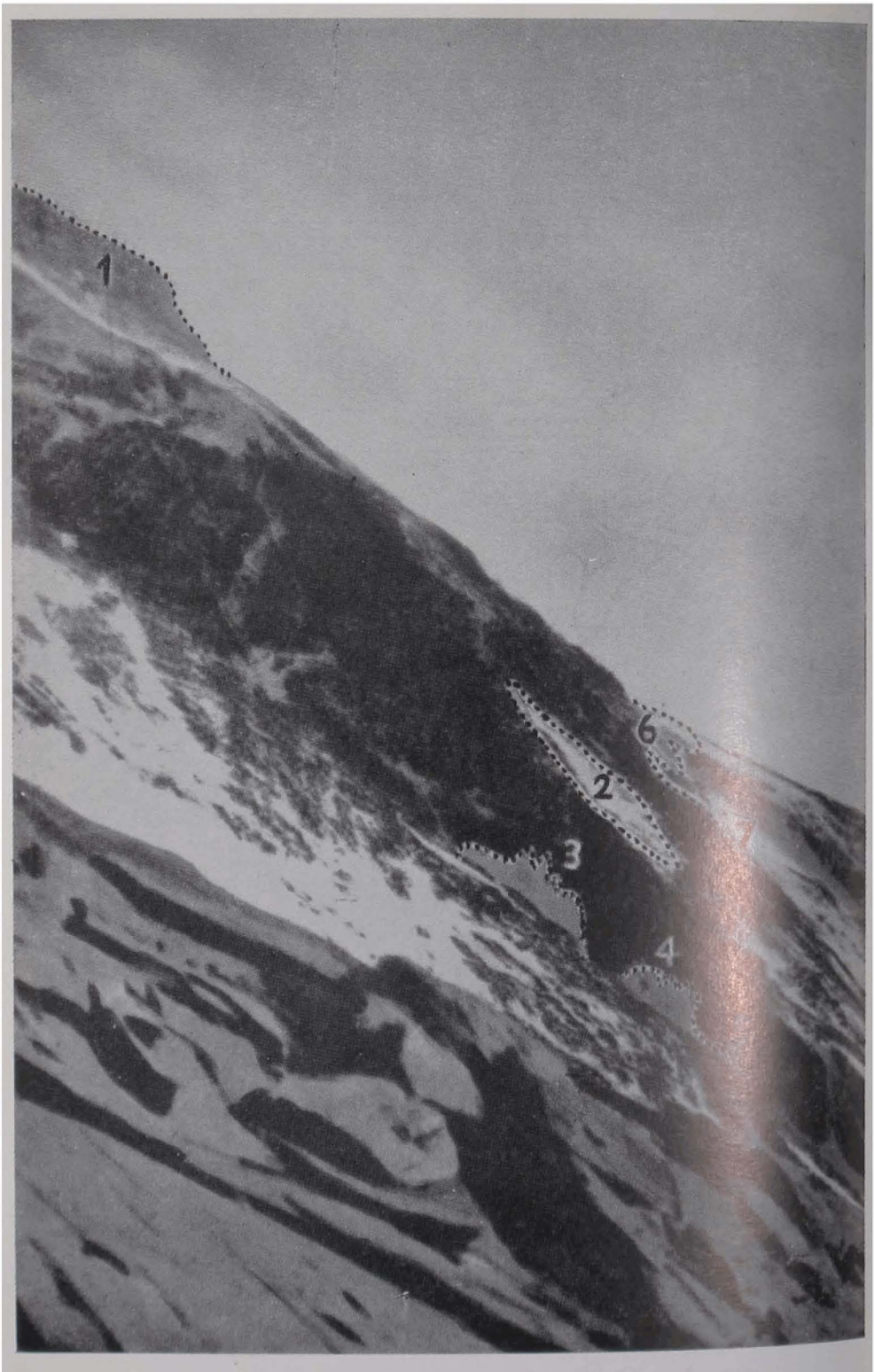
CLIMBING THE ICE-SLOPES OF THE NORTH COL



ASCENDING SNOW-SLOPES ABOVE THE NORTH COL, AFTER LEAVING CAMP 4



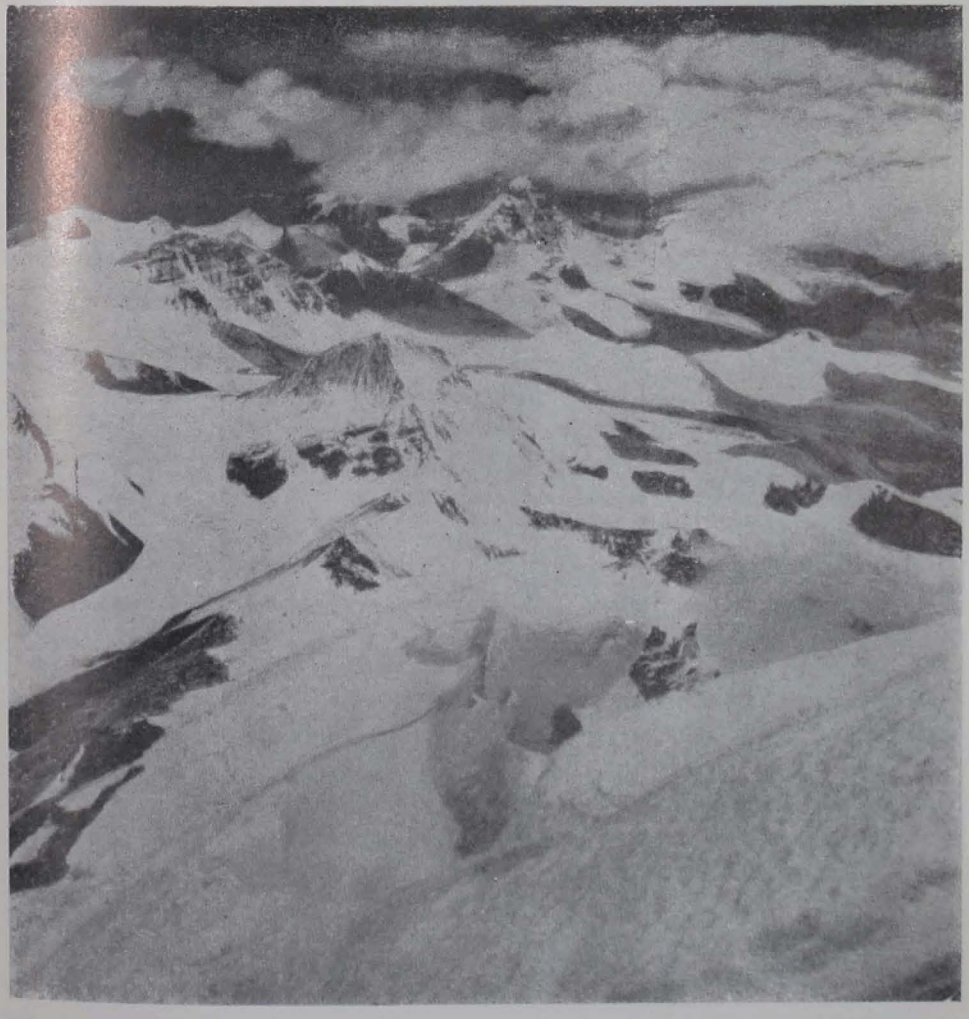
CHINESE MOUNTAINEERS ON THE UPPER SLOPES OF EVEREST AT (?) 8,300 M. (27,231 FEET)



NORTHERN SLOPES OF EVEREST FROM *c.* 8,000 M. TAKEN IN 1933 BY L. R. WAGER

Chinese Everest Expedition photograph

LOOKING NORTH FROM 8,700 M. ON EVEREST



VIEW NORTHWARD FROM THE SUMMIT OF EVEREST TAKEN BY SIR EDMUND HILLARY IN 1953

EXPEDITION TO KANGCHENJAU (22,603 FEET), 1961

By SONAM GYATSO

A MOUNTAINEERING expedition comprising 15 members was organized in September 1961 with the object of climbing the north Himalayan peak Kangchenjau (22,603 feet). The organizers assigned the task of leading the expedition to me.

Our party assembled at Gangtok on September 7th, 1961, and remained busy in making preparations, such as collection and packing of material and provisions, hiring of porters, etc. We left Gangtok on September 13th, 1961, on our march to the Base Camp. The road was blocked at a number of places due to landslides, and several bridges on the way had been washed away as a result of heavy rain and floods in that region. We had to cross many risky points where a slight slip of the foot might result in a disastrous fall. The members had to transport heavy loads at such points. On our way, we invoked the blessings of the local village priests and requested them to pray for fine weather and success to the party.

After an arduous march through difficult terrain, we reached the Base Camp on September 25th, 1961. We soon faced the fury of the first snow-fall on the night of September 26th, 1961, followed by bad weather. In spite of incessant snow-fall, the site for the advance Base Camp was selected at 19,000 feet on September 28th, 1961. Yet we could not move to the advance Base Camp till October 4th, 1961, due to continuous snow-fall and very bad weather.

On October 7th, 1961, we divided the party into three groups for reconnoitring the area for further camp-sites and approach routes to the main peak. Our first success came on October 10th, 1961, when Lekpa Tenzing and I reached the top of a peak Yulhekhang (21,090 feet). From this place, we found that any attempt on the main peak from the south was almost impossible as the way was barred by steep rocks and ice-walls.

Another group of three members, namely Devi Singh, Pemba Gyaltzen and Nima Tsering, were also successful in climbing another unscaled peak Chombu (21,000 feet) on October 13th, 1961. This peak was unsuccessfully attempted in 1948 by Col. Cook and Mr. Morris who were accompanied by Sherpa Sardar Ang Thargey.

The weather continued to be bad and we had to face incessant snow-fall. As it was clear that there was no route from the south,

we decided to attempt the peak from the northern side. While finding this route from the north, we lost our way and had to wander about in knee-deep snow for a full day before we could get our bearings. We had to cross a number of hazardous passes with the help of climbing ropes. In spite of very bad weather, an advance party of four reached the col on October 20th, 1961. This party spent the night in a small rock cave which providentially did not collapse under the heavy pressure of a big boulder which fell on it from the top. Fortunately, no one was injured.

Thus, the stage was set for the final attempt on the peak on October 21st, 1961. A party of three comprising Jaswant Singh, Lekpa Tenzing and I started for the peak at 6 a.m. in fine weather. We had to face high velocity wind which was hurling stones and ice-flakes on our faces as we were plodding our way to the peak. Our hard struggle was, however, well rewarded when we succeeded in reaching the top at 13.00 hours. We planted the Indian and Sikkimese flags at the top, and after spending five minutes there in taking photographs, we started on our return journey. In the excitement of having achieved our goal, I missed a big crevasse (about 300 feet deep) and nearly slipped into it. Fortunately, other members pulled me back in time. We reached the advance Base Camp in the evening and arrived at the Base Camp on October 23rd, 1961, where we were warmly greeted by our colleagues. Thus, with perfect co-operation and team-work, the party succeeded in reaching the top in the face of great difficulties and adverse weather conditions.

A VIEW OF CONNECTING PEAK

MAIN PEAK KANGCHENJAU (22,603 FT.)

ASPECTS OF THE SNOWMAN

By H. B. GURUNG

(*Reprinted from* G.E., Edinburgh University Geographical Society Magazine, *April 1962, No. 11*)

FACT AND FICTION

DOES the Snowman, however abominable or amiable, exist? Mountaineers are grateful to Mallory for having said, regarding climbing, 'Because it is there'. Unfortunately no Snowman (Yeti) believer has justified the situation by saying, 'Because it is not there'. It is not the existence of the Yeti that is in question, however, but that of his image. Ever since Waddell (1899) reported the trail of 'the hairy wild man' from Donkya La, the debate has remained unabated. 'Nowadays', sighs Gerald Durrell, 'to say you believe that in some parts of the world there be quite large animals unknown to science is tantamount to admitting that you are weak-minded.' Scalps, skins, hairs and droppings accredited to the Yeti have been discredited one by one. The few first-hand evidences available are submerged in a maze of myth, magic, imagination and superstition.

Yet the Himalayans are not to be despised for their belief, nurtured by geography and preserved by tradition. Within the compass of 1,500 miles of the Himalayas are extensive areas that are remote and inaccessible. These are not empty deserts to the inhabitants on the fringes, as they are elsewhere. In the Scottish highlands, the bland hills look bleak, and millions of years old (Laurentide and Lawrentian), and it is impossible to think they can preserve anything novel. Even the Loch Ness monster is supposed to be prehistoric! But one can conjure up anything to happen in the refulgent youth of the Himalayas. Alternated with innumerable forbidding peaks are deep valleys, each with its own secret. If there were no mountains, men would create them: like the Pyramids in the featureless Sahara. If there were mountains, men would adorn them with life.

A highland boy's 'highway code' is to run downhill when chased by the Yeti. For if it is a 'he', the crest-hairs will fall over his eyes, and if a 'she', her long, pendant breasts (supposed to be carried on the shoulders) would encumber her movement, and while the Snow-woman is thus fumbling, our junior Sherpa or Gurkha is safe down in the valley. In actual fact, says Dr. Hagen, not a single soul has

ever actually seen a Yeti so far. If you follow up the story of the Sherpas on Mount Everest seriously, if you cross-examine the story-teller, his answer is always: 'No, I have not seen the Yeti myself: it was my cousin's father, and he lives on the other side of the mountains, and he died two years ago.' This does not mean all Yeti stories are native figments; as George Orwell would generalize: 'That is invariably the case in the East; a story always sounds clear enough at a distance, but the nearer you get to the event, the vaguer it becomes.' Even on logical grounds, a simple Himalayan asks, if there can be wild goat (ghoral), wild sheep (jharal), wild dog (bwanso), wild horse (kyang), why not wild men (the Yeti)? It is equally naïve of the scientist to assume that these people cannot identify monkeys. In West Nepal, the highlanders appreciate the affinity between man and monkeys, and have been calling monkeys *mon Oncle* since long before Darwin was born.

Search and Research

Either a distinguished research worker introduces his subject or an unusual subject advertises the worker. The Yeti is a subject ideally sensational, and we pity the American scholar surveying the nine million rhesus monkeys (equal to Nepal's total *Homo sapiens*) in Uttar Pradesh. When the Yeti is finally scientifically classified into zoology or anthropology, all the journalistic zeal will melt away. As long as science poaches on publicity, be it so.

Most of the Yeti footprints have been met casually, by Waddell (1898), Howard-Bury (1921), Kaulback (1934), Tilman (1937 and 1938), Hunt (1937), Shipton (1951) and Wyss-Dunant (1952). The 'Daily Mail' Expedition (1954), sent specifically to find the Yeti, came back only with more footprints. The American Expedition of Tom Slick (1957) was equally unrewarding and the Japanese Expedition spent a fruitless winter in 1960 waiting to capture a shivering Yeti. Nor were the Czechoslovakians in Mongolia (1958) and the Russians in the Pamirs (1958) more successful. The second Soviet Expedition (1960) came to the same conclusion as the Hillary Himalayan Expedition of 1961: that the 'Snowman' existed only in local legends. But their leader Professor Stanyukock's valedictory remarks are most sentimental:

> 'Farewell, you fascinating riddle. Farewell, inscrutable snowman, ruler of the heights and snows. A pity, a thousand pities that thou art not to be found. What, not at all? Not anywhere? Perhaps thou art yet to be found in the remotest mountains of Nepal. Perhaps!'*

What has confounded the Yeti investigation is his nebulous character. He has many names to justify his numerous adherents: Metoh-Kangmi, Mi-tre, Mi-go, Mirka, Shupka, Thloh-Mung; all refer to the same elusive image. The focus for the search is also widely diffused. Originally a native of the Eastern Himalayas, the Yeti has been allegedly reported from Karakoram, Garhwal, Burma and Borneo. The latest dossier, 'The Snowman and Company', even imposes upon him such distant cousins as the Tibetan *Dremon*, the Mongolian *Alma*, and British Columbian *Sasquatch*.

The dictum that suspended judgement is the greatest triumph of intellectual discipline is fully ignored when explaining mysterious footprints in the snow. Expert speculations on its authorship have been so prolific and diverse that any sensible Yeti (he would not play hide-and-seek if he had no sense of humour) must be prone to plantigrade more cautiously in order to further confound his pursuers. Extreme sceptics attribute the prints to rolling boulders a challenge to slope geomorphologists), 'blob' tracks (micro-climatologists should know better, or snow-sandals (whose foot ?). Some suggest apes, gorillas or langur monkeys. Others think of snow leopards, loping wolves, giant pandas, Tibetan outlaws, Hindu ascetics, and bears (not one, but of three species). The advocate who pleaded for the Yeti, 'if fingerprints can hang a man, I see no reason why footprints should not establish the existence of a particular kind of man', must envy the inimitable palaeontologists.

Thus the myth multiplies. One asks of the credentials of the Yeti: 'Anthropology or Zoology ?' Another queries: 'Is the Yeti a biped or quadruped ?' While most scientists reject the supposition of an unknown zoological specimen daring to escape their classifications, those more hopeful think of the Yeti in terms of a 'missing link'. One of the latter laments: 'It is difficult not to be exasperated when all the pieces of evidence run away as soon as the experts arrive on the scene.' Another scientist, relying on embryological evidence, believes in some sort of a giant primate—perhaps akin to the Pleistocene Gigantopithecus. Even classificatory names have been appended to the already long list of Yeti nomenclature. Tilman suggests *Homo niveus odiosus*, and Heuvelmans prefers *Dinanthropoides nivalis* or 'terrible anthropoid of the snows'.

Attraction and Distraction

Climbing or exploring in the Himalayas is like booking seats in a theatre: but sitting on the top is your own business. In a single year, there were eleven applications to climb Dhaulagiri. Each

magnitude of peaks has its price fixed, and a Yeti expedition tops them all, with about £400. As long as the Yeti helps by being scarce, the underdeveloped Himalayan countries are assured of this royalty and foreign aid without strings. Yeti search has also contributed greatly to geographical exploration in regions where explorers claim to have been the first to set foot, at the same time chiding the Survey of India for inaccurate maps!

Himalayan wanderers have found the Yeti to be their Achilles' heel, causing distraction in camp and during the climb. Climbers need not read *The Hound of the Baskervilles* to be convinced, when alone in a flapping tent, of the Yeti's eerie whistle down the wind. Leaving apart the few high-altitude Sherpas, the natives believe that the Sahibs are also scared of the Yeti: otherwise why should they be carrying such lethal weapons as ice-axes and crampons? Neither is a surveyor wielding his theodolite on a remote ridge much safer. While taking bearings, he has only to imagine a Yeti's grisly tackle from behind his shoulder and we suspect that the oscillating height of Chomolungma—Mount Everest—from 29,002 feet to 29,141 feet, and 29,080 feet to 29,028 feet was not due to the heaving Himalayas, but rather due to the shaking surveyors!

Conclusions

Most Yeti investigations suffer from generalization. If he is to be found, the Yeti should be pinned down in the place, instead of debating on his ubiquitousness from Alaska to Borneo. The attempt of unsuccessful expeditions to seal the Yeti's fate is being unrealistic. Failure to find a thing does not necessarily deny its existence. Neither does Smythe's Garhwali bear or the fake Khumjung scalp invalidate each and all of the Yeti facts elsewhere.

It is presumptuous to hope that the Yeti will contribute extensively to zoology, zoo-psychology, anthropology and the theory of evolution. This will be the more heartbreaking if a hibernating *Ursus arctos isabellinus* or *Semnopithecus entellus Dufresne* is revealed at the end of a trail.

To be open-minded may be healthy. The opening of a closed mind causes more embarrassment than the closing of an open one. Finally, things that persist may or may not exist.

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*Sir Edmund Hillary's Himalayan Expedition in 1961 in search of the Snowman (Yeti) throws sufficient light on the mystery of the Snowman (Yeti). Results of investigation both in the field and the laboratory by the experts based on the materials collected during the expedition indicate that the Snowman in all probability is a kind of Himalayan brown bear found sometimes roaming in Alpine snows.

The Editor in his article on 'The Vision of Yeti' published in the Magazine section of the Sunday *Amrita Bazar Patrika,* May 23rd, 1954, mentioned also that 'the Snowman is a kind of brown bear which when climbing over the snows in search of food sometimes stands up and even lifts its forearm over its eyes to avoid glare of the sun in the snows'.—EDITOR.

The 'area north of Kangchenjhau' as mentioned in H. V. R. Iengar's article entitled 'Sikkim, 1960', published in the *Himalayan Journal,* Vol. XXII, 1959-60, is in Sikkim and *not* in Tibet.

—EDITOR

OBITUARY

ROBERT KAPPELER

(1909–1960)

ROBERT KAPPELER was born on February 16th, 1949, in Frauenfeld. He has left us, all too soon, on April 3rd, 1960. After much suffering, death has delivered him from a dreadful illness for which there was no hope of a cure.

A love of Nature and of beauty made him turn to mountaineering; and when the popularity of skiing increased in the twenties he was one of its leaders—especially where ski-excursions were concerned.

We made our first big climbing expeditions together in 1934 from the Lauteraarhut; these included a direct ascent to the Grosse Lauteraarhorn from the Aauteraar Glacier, the Anderson ridge of the Grosse Schreckhorn, and a number of less important climbs. The following year we did the Badile north ridge, the Sciora couloir of the Ago di Sciora, and others.

In 1936 he was in the Dauphiné, and traversed the Barre des Ecrins and the Meije. 1941 saw us in the Valais where we climbed the Täschhorn, the Dom, crossed the Nadelhörner and then the Zinalrothorn, Matterhorn, and a direct ascent in the Lyskamm from the Grenzgletscher. The climbs of the next summer include the Aiguilles Dorées, Argentière and Chardonnet, and in 1943 the Bietschhorn, Lötschentaler Breithorn and others, as well as the North ridge of the Weisshorn. Then, in the next year, starting from the Mountet hut, we climbed the Zinalrothorn, the North ridge and Arben ridge of the Obergabelhorn, the Viereselsgrat of the Dent Blanche, and (from the Weisshorn hut) the Schalligrat.

During the rainy summer of 1946, we made up our minds to go to the Karakorum in 1947.

The coloured photographs and the ciné film he made of this expedition remain an unforgettable document of it. He was spared long enough to see the Rakaposhi—which was also our goal in 1947—conquered at last in the year 1958, after many vain attempts; and it pleased him especially to know that the ascent, carried out along the route traced first by us, was successfully made by the Anglo-Pakistani expedition.

His own last big climbs were in the Dolomites in 1948: Pala di San Martino, Schleierkante of Cima della Madonna, the North Wall of Marmolada and the Towers of Vajolet.

Kappeler was also a water-sport enthusiast. Self-built boats and water-skis allowed him to practise his extraordinary talent in this direction. And after the Second World War the increasing popularity of private flying, too, became one of his greatest pleasures and he was one of the first members of the Frauenfeld flyers group.

His great and varied artistic leanings opened large fields for him for exploring photographic possibilities: his pictures are amongst the finest things he left behind. Unfortunately only a few of these are known; except for the photographs in Vol. IV of 'Berge der Welt', 1949, his friends alone have seen them all.

From my childhood onwards I had the great happiness to be his friend, and no words of mine can describe the true and faithful comrade he was. Only those who dare count themselves amongst those close to him have known his inner wealth of goodness and kindness. His keen enthusiasm, his wisdom, and his knowledge made him an understanding helpmate and a friend in the full sense of this word. The inevitable has happened now, and a rich, full good life has come to its close—too soon. All his friends and admirers are filled with grief and in gratitude they remember him.

HANS GYR

HUGH RUTTLEDGE

(1884–1961)

HUGH RUTTLEDGE, the distinguished mountaineer and leader of two pre-war Mount Everest Expeditions, died at Stoke, Plymouth, on November 7th, 1961, at the age of 77. Born on October 24th, 1884, the son of Surgeon Lieut.-Colonel Edward Butler Ruttledge, of the Indian Medical Service, he was educated at Cheltenham College from 1896 to 1903, when he gained a classical exhibition at Pembroke College, Cambridge. He passed high into the Indian Civil Service in 1908 and spent the following twenty years almost entirely in the United Provinces.

He began his mountaineering career in the Alps when on leave from India in 1921 and he was ideally suited to the post of Deputy Commissioner of Almora, to which he was appointed in 1925. He immediately made it his business to know at first hand every corner of his Himalayan domain and to master its human problems. Wise

and sympathetic, he was accessible to all. Accompanied by his wife, also an ardent and tireless traveller, and on some of his tours by such fine mountaineers as R. C. Wilson, Howard Somervell, and Tom Longstaff, he explored the then unknown north-eastern and southern approaches to the mountain rim of the 'inner sanctuary' of Nanda Devi (25,645 feet). He made other notable journeys, including the first crossing of Traill's pass from north to south, a reconnaissance of Panch Chuli, and he crossed the Lipu Lekh Pass into Tibet, where he was the first European to complete the pilgrim circuit—*parikrama*—of the holy mountain, Kailas, north of Manasarowar. On several of these journeys he was accompanied by Chettan, the 'father' of Sherpa porters, who had been on the early Everest expeditions, and who was later swept away and killed by an avalanche on the north-east face of Kangchenjunga.

Hugh Ruttledge was one of the first to whom Sir Geoffrey Corbett and I wrote when contemplating the founding of the Himalayan Club. He became an enthusiastic founder member and the Club's expert adviser on travel in the Kumaun Himalaya. He retired from the I.C.S. voluntarily in 1932, though only 48 years of age. Later the same year, permission was received by the Mount Everest Committee in London for another attempt on the mountain through Tibet.

Nine years had elapsed since the last expedition, and an entirely new team of young climbers had to be chosen. Longstaff and Bruce recommended Hugh Ruttledge as leader, and the Committee unanimously agreed to his appointment. The choice of the team was left to the leader—by no means an easy task in the short time available. Ruttledge had all the necessary qualities for his task—thoroughness in organization, great energy and perseverance, wisdom, tact and humanity. He took immense pains to weigh up the lessons of past expeditions. Seeking the advice of such men as Bruce, Longstaff and Norton, he supervised every detail of preparation, and made his own decisions when advice was contradictory. The 1933 expedition was probably the most carefully planned expedition of all that set out to climb Everest from the Tibetan side. It had never been contemplated that the leader should reach the summit. It was his job to plan and organize, and to put the fittest members of his team within range of the summit. The expedition very nearly achieved success. Three men, Wyn Harris, Wager, and Frank Smythe, reached a point within 800 feet of the summit, where Norton had turned back in 1924. Complete success was prevented by the adverse weather, and by the then little-known problems of acclimatization.

Hugh was the most modest and unassuming man I have ever met. He himself had been to the North Col to make decisions for the final attempt and on his return to England was greatly disappointed at the lack of success. He made it clear that he was ready to stand down from the leadership in the event of another attempt. But the Committee retained their confidence in him and chose him again. He led his second expedition to Everest in 1936. Once again it was most carefully planned and all went well to the foot of the North Col. Thereafter the weather, the worst ever experienced by any expedition to the mountain, never gave the slightest hope of success.

Hugh often reminded me of Edward Adrian Wilson, Scott's companion in the Antarctic, who was twelve years his senior in age. Both were lovers of nature. Both were indomitable and had great moral courage. Neither complained at ill fortune. Both shunned and hated publicity. It was always a grief to Hugh that, as City Magistrate of Lahore, he was refused permission to take an active part in the First World War. In the Second, at the age of 56, and in spite of his lameness, he became a keen member of the Home Guard and later chief observer in the Royal Observer Corps. His early retirement from India had been spent with his wife and children on his small island of Gometra, off the west coast of Scotland. Later his passion for the sea led him to spend much of his time on his yacht *Eternal Wave*. He finally settled in South Devon. He suffered much from heart trouble during his last three years, nursed by his devoted wife. He bore his affliction with calm courage. As was his wish, his ashes were scattered at sea.

Hugh's expeditions to Everest did not meet with the success they deserved ; but his judgement and planning were rarely at fault and much of the experience gained on these pre-war attempts was to bear fruit in later years. To me he was the pattern of a true mountaineer.

KENNETH MASON

J. L. PEIRCE

(1924–1961)

JOHN PEIRCE died suddenly in Calcutta after a brief illness on October 24th, 1961.

When he joined the Club in 1956, his deep appreciation of the beauty of mountains and his great passion for photography made him one of the most enthusiastic members in Calcutta at the time.

Being concerned with the tea trade in Calcutta, he was accustomed to pay frequent visits to gardens in the Darjeeling hills and Assam. He always returned with a fresh series of cine film which he would project, glowing with eagerness and enthusiasm, before his friends. He visited Kathmandu twice and also Pokhara. He certainly possessed a flair for recapturing in photographs the mountain scenes, and the simple charm of the mountain folk.

In 1958, he took on the duties of Hon. Secretary in Calcutta. The Club had been going through a difficult period just then, with many of its oldest supporters and office-bearers either leaving India for good or relinquishing office owing to pressure of other work. He made an efficient Hon. Secretary, being painstaking and enthusiastic in whatever he did. His other interests were music and painting. He possessed a large and varied collection of gramophone records which he delighted in playing to his friends. The few colour and pencil sketches of his that I saw, I thought very commendable. Most of his holidays were spent in Italy, a country for which he had a great affection. He spoke Italian fluently.

T. H. BRAHAM

C. F. W. NOYCE

(1917–1962)

WILFRID NOYCE, almost certainly the greatest British mountaineer of his time, died on July 24th, 1962, together with his companion Robin Smith, after ascending a 19,785 feet peak in the Pamirs. He was a member of Sir John Hunt's 18-man Anglo-Soviet Expedition whose main objective was the ascent of Mt. Communism (formerly Mt. Stalin), 24,590 feet, the highest peak in the Soviet Union. The accident was pure chance ; one of those tragedies that can occasionally happen even among the greatest climbers. Few were richer in experience and skill than he ; and he was at the height of his powers.

Wilfrid Noyce was born on December 31st, 1917, at Simla, the son of Sir Frank Noyce, a distinguished member of the Viceroy's Council. He was educated at Charterhouse and at King's College, Cambridge, where he obtained a first in Modern Languages. When he entered the Army in 1940 he was already regarded as one of the foremost young climbers in Britain. He had compiled (together with Dr. J. M. Edwards) two guide-books on Welsh climbs, having

pioneered several hard, new routes; and he made many notable ascents in the Alps. He served in the Welsh Guards and King's Royal Rifle Corps; and, from 1942, in the Intelligence Corps in India. He became Chief Instructor at the R.A.F. Aircrew Mountain Centre in Kashmir. He carried out many new climbs there, both solo and with other climbers from the Armed Services; and he compiled a very useful guide-book published in 1945 by the Club entitled *A Climber's Guide to Sonamarg*—now unfortunately out of print. It was during his service in India that he undertook two small expeditions to Garhwal in 1943-44, so delightfully described in *Mountains and Men* (published in 1947). In 1945 he visited Sikkim in company with Angtharkay and climbed Pauhunri, 23,385 feet. I shall never forget my meeting with him in Gangtok immediately after this ascent—a quiet, kindly and utterly modest figure, scarcely eager to talk about the climb still less to flaunt the achievement.

On his return home, he did two more terms at Cambridge and then began his career as a Modern Languages master, first at Malvern and from 1951 at Charterhouse. The Club has reason to be very grateful to him for taking on the post of Hon. Editor during this very difficult period and for putting the *Himalayan Journal* back in circulation (Vol. XIII, 1946) after the long hiatus of the war years. In Easter 1946, whilst climbing in the Lake District among familiar crags, he had an accident, his third on well-known climbs. This accident—the personal injury meant nothing to him, but it had shaken his faith at the roots—acted very nearly as an obituary to his climbing. Within a couple of years he had withdrawn his membership of the Alpine Club. His visits to the hills were only occasional now; and often they were merely to introduce boys to the mountains. In 1950 he married, and he seemed destined to settle down to a sedate, scholarly life with his abiding interest in poetry and literature.

Then in 1953 came John Hunt's invitation to join the Everest party, and his almost hesitant acceptance. Everest marked the turning point in his climbing career. From then on, his skill and reputation as a climber, no less than as a writer, rose to greater heights than ever before. His personal success on the expedition, in opening the route to the South Col, was followed by his outstanding book *South Col*, probably the finest account of a Himalayan expedition ever written. A poem published in the book reveals something of his personality:

'. . . That in the storm
My hand may stretch to help,
Not cringe in the glove to warm ;
. . . That in the lottery
(My last, my worthiest prayer)
No envy bleed,
When, as I know my heart,
Others succeed . . .'

He was, in fact, one of the fittest and most competent members of the party during the crucial assault period.

South Col met with immediate success, and was translated into several languages including Russian and Japanese. He was an interesting lecturer ; and especially during recent years he was much in demand not only at home, but also in Europe where his fluency in languages was a great asset. He was elected to the committee of the Alpine Club and also the Climbers' Club ; besides taking on the editorship of the Climbers' Club Guide-books. His first book of poetry (*Michael Angelo*) was published in 1953. This was the forerunner to a regular output of work of high literary merit and quality ; poems, translations (*Starlight and Storm* by Gaston Rebuffat), a novel (*The Gods are Angry*) ; *The Springs of Adventure,* in which he attempts to analyse the feelings and motives of climbers.

There followed two important Himalayan climbs—and two more books. The first on Machapuchare in Nepal in 1957, which is described in *Climbing the Fish's Tail.* Noyce, together with David Cox, reached a point 150 feet from the top and it was only a turn in the weather and lack of time which prevented them from completing the ascent. In 1960, he led an expedition to Trivor, 25,370 feet, a hitherto unattempted Karakoram peak ; the expedition is described in *To the Unknown Mountain* (reviewed on p. 185), his last published work, and considered by many to be his finest. In addition to his onerous duties as leader, he also led the summit climb, being the fittest member of the party and at the top of his form.

There are very few expedition books which are free from the tiresome clichés and hoary platitudes of a long-drawn-out, even if successful, ascent. *South Col* is one ; *To the Unknown Mountain* is another. Why ? Because the writer has put much more into them than the mere story of an expedition. He has projected his own highly sensitive personality honestly and without fear of criticism ; and he has brought to life a picture of his companions. This is writing of the highest order.

Wilfrid Noyce was rightly called a scholar mountaineer, in the classical tradition of the great climbers of the 'Golden Age' in Europe. But he was more than that. He was in step with the masters of the most advanced modern techniques, and he could compete with the best of them. A talk he gave to the Alpine Club in 1960 (reprinted in the *Alpine Journal*, Vol. 63) illustrated this perfectly. Scholarly and sensitive, it described climbs of a very high order indeed, carried out with much younger companions, e.g. the north face of the Dent d'Herens and the fourth ascent of the Furggen ridge of the Matterhorn.

In 1961, Noyce gave up schoolmastering to devote himself entirely to writing—a career in which he would have excelled with his sensitive temperament. His character was richly blended with courage, gentleness, modesty and integrity. The loss to British mountaineering that his death has caused is immeasurable. Our deepest sympathy goes out to his wife and two sons.

T. H. BRAHAM

REVIEWS

THE BIRDS OF SIKKIM. By SALIM ALI. *With coloured plates by David Reid-Henry, Robert Scholz and Paul Barruel and line drawings by Paul Barruel and Walter Ahrens. 414 pages with 17 coloured plates and 41 text-figures in black and white. Oxford University Press.* 1962. Rs.30.

The Birds of Sikkim is a comprehensive treatise on the avifauna of Sikkim—a paradise for the naturalist. Although Sikkim birds have been collected and studied by earlier European ornithologists mostly in the 70's and after, starting from Hodgson in 1845 to Schafer's work in 1938 on Tibetan birds, no comprehensive work appears to have been published dealing so extensively as in the present volume with the bird life of Sikkim, Tibet and Bhutan.

A brief sketch of the vegetation on a somewhat altitudinal succession based on Hooker's monumental account in the *Himalayan Journals* and Champion's floristic classification has been appropriately incorporated in the introduction. Such an account of the vegetation forming the biotope of the various species of birds dealt with is indeed a valuable addition to the treatise, unlike previous publications on the birds of Sikkim, Nepal, Tibet and Bhutan. It has been rightly stressed that the 'altitudinal zones of vegetation are of the highest interest to the student of bird ecology inasmuch as each of them harbours a more or less characteristic avifauna of its own. Perhaps nowhere in the world would one find the unique phenomenon of so divergent a range of climates and vegetation telescoped into so circumscribed a space. Hooker gives a good example. He writes: 'From the bed of the Ratong, in which grow palms with screw-pine and plantain, it is only seven miles in a direct line to the perpetual ice . . . In other words, the descent is so rapid that in eight miles of the Ratong waters is seen every variety of vegetation from the lichen of the Poles to the palm of the Tropics: while throughout the remainder of its mountain course it falls from 4,000 feet to 3,000 feet flowing amongst tropical scenery through a valley whose flanks rise from 5,000 feet to 12,000 feet above its bed.' 'A book that is quite indispensable to the proper understanding of the physiography and vegetational characteristics of Sikkim is Sir J. D. Hooker's *Himalayan Journals,* published in 1891. It is a classic of its kind—the enthralling narrative of a most difficult and adventurous pioneering exploration and sojourn between 1848 and 1850 in the then unsettled territories of the Raja of Sikkim. The Appendix to the

volume, which deals in some detail with the physical geography and vegetation of the Sikkim Himalayas, East Nepal and adjacent provinces of Tibet, is a masterly account.' Naturally, the author has based his study of biotope and ecology of the Sikkim birds to such a luxurious and varied plant community unique of its kind in the Sikkim Himalaya.

As a veteran systematist Salim Ali has given the description of 400 species belonging to 44 families and many sub-families of Sikkim birds in a thorough manner. His data, observations and notes on status and habitat, distribution and general habits are extremely helpful to the present and future workers for field investigation of birds of Sikkim. He has left nothing untouched to understand each and every one of the species described, with local and scientific names duly recorded. Therefore, even a layman desirous of knowing Sikkim birds will find no difficulty in identifying the birds in these hills. The book is equally useful for detailed study of birds of the Eastern Himalaya in the museums in India and abroad where collections of Sikkim birds are well represented. His notes on habitat, distribution and migration of the species dealt with show his sound knowledge and vast experience in the study of the life-history of birds. His hypothesis, ' A curious parallelism exists between the avifauna (and of several other widely differing forms of animal life as well) inhabiting the moist Sikkim Himalayas, Burma and Malaya on the one hand and the far-flung rain forests of the southern Western Ghats on the other ', bears a somewhat close affinity to the composition and distribution of flora also of the Sikkim Himalaya. All these provide ample scope for future investigation on the different elements present in the avifauna of India and adjacent countries.

The book fulfils a long-felt want in the literature of Sikkim birds. This book will undoubtedly prove to be indispensable to the zoological institutions and libraries not only in India but also all over the world as one of the most important authoritative works on the investigation of bird-life of the Sikkim Himalaya in particular and India and Asia in general. Printing is good and plates are excellent.

K. BISWAS

TO THE UNKNOWN MOUNTAIN. By WILFRID NOYCE. *Published by Heinemann, London.* 1962. *Pp.* 183. *Maps. Illus. Price* 21*s.*

I shall begin straight away by saying that this is one of the very few expedition books—they can be counted on the fingers of one

hand—that stands in a class apart. If ' unclouded success is pleasant . . . respectable and therefore does not inspire ', then Wilfrid Noyce's book achieves a double triumph for it is the story of unclouded success told in a manner that assures it of a permanent place in mountain literature. There are no heroics ; there is absolutely no drama ; and, above all, the writing is honest, pure and entirely individual. The author's personality and style penetrates every page. And how this style has developed. With *South Col* comes about the first radical change ; and a natural evolution has followed ever since. His writing skill, like his climbing skill, has kept in step with the times. Masterly and scholarly, he has not been afraid to discard sham conventions, or to break cherished taboos. His place as a climber, even amongst the most advanced modern tigers, was at the very top ; for he had over them the immense advantage of experience.

Trivor, 25,370 feet, was one of the dwindling number of Karakoram giants still unclimbed in 1960—and, better than that, it had scarcely been photographed, still less reconnoitred. Here was the ideal mountain, rising above the immense Hispar Glacier, eight miles to the west of Distaghil Sar. Five other Englishmen and one American came to the unknown mountain with Wilfrid Noyce as their leader. A leader can seldom relax ; his duties are wearing, often tiresome and always onerous. That this party—composed of a scientist, a plumber, a physical educationist, a shop fitter, a doctor—was an entirely happy and well-knit group, does credit to the leader who seemed to combine the qualities of the thinker and the man of action.

Nothing was lacking in the organization and preparation of the expedition. Each man had a definite role to fulfil ; and, with Noyce at the head, the party was assured of recovering much of its financial outlay through lectures, articles and a book afterwards.

For the initial successful reconnaissance, Wilfrid Noyce hands the palm to Don Whillans who preceded the main group into Pakistan by a few weeks. Out there a surveyor joined the team, a liaison officer, and two ' extras '—neither really wanted, and one needing to be sent down for bad behaviour. The troubles expected from the Nagar porters fully materialized ; a day after Base Camp was established a careful check revealed that the expedition had enough sugar to last four and a half days. Six high-altitude Hunzas were also engaged. The route taken on the mountain is clearly illustrated in maps and photographs. But with Noyce's tendency to understate the technical problems, the uninitiated might falsely assume that the ascent was devoid of difficulties. Typically, the leader had

intended to stand down in favour of younger men for the summit team ; typically, it turned out that he was the fittest climber, and in tremendous form. Don Whillans was extremely unlucky to be struck ill at the crucial moment.

There is an amusing sidelight when the returning Austrian Distaghil Sar party meets the expedition, and one of them asks Noyce to pose for a photograph, not as leader of the expedition but as the author of *The Gods are Angry*. Of course the climber does not look at the world and himself ' from above ' during a lull at a high camp. The ' intellect operating in the void ' does not exist on a high mountain ; there is far too much anxiety over the time factor, rations, the weather ; it is the mundane things that occupy, almost obsess, the mind. Anxiety, too, on the summit. The answer to what does it really feel like on top is relief at having arrived and anxiety about the descent ; these two sensations overwhelm all others. The name of the mountain, which is taken from the map prepared during Eric Shipton's 1939 survey, is almost certainly a mutilation of Thale Var, and it is most unlikely that there is any link between it and Tryfan as suggested on p. 140.

There is an absolutely first-rate account by Don Whillans of his remarkable solo journey home by motor-cycle ; forthright, down-to-earth, direct ; both the man and the style ; also a botanical appendix by O. Polunin, and a brief physiological note by A. J. M. Cavenagh. *To the Unknown Mountain* should be bought and read by all those seeking the very best type of expedition book.

T. H. BRAHAM

THE ASCENT OF DHAULAGIRI. By MAX EISELIN. *Translated by* E. NOEL BOWMAN. *Pp.* 159. *Maps. Illus. Oxford University Press, London.* 1961. *Price* 25*s.*

After reading the first 107 pages, I felt that a much more apt title for this book would have been ' Yeti in the Himalayas '. ' Yeti ' in this context refers to the single-engine Pilatus Porter PC6 aircraft used by the expedition to transport climbers and baggage to the north-east col of Dhaulagiri, 5,700 m. It was an experiment novel in Himalayan climbing, the outcome of which leaves one unconvinced about its possible adoption by other Himalayan expeditions.

Amongst many matters left unsaid about the use of aircraft is the question of cost. A ' hire contract ' is referred to with the Pilatus Werke in Switzerland. But what about the expense of taking two pilots out ; who foots the £2,500-bill when a new engine has to be

flown in ; and when finally the machine is abandoned on the Dambush Pass as a total wreck ? Was all this cheaper than a team of porters ? To my mind, the safety margins of using an aircraft in the high Himalaya are much too slender. The imponderables are too great ; and in the event of a breakdown the expedition may find itself, as this one did, with rice as their only food on the Dambush Pass, soup and coffee on the north-east col, and the remainder of their stores still in Pokhara. That was when the aircraft broke down for the first time. After three weeks' delay, the machine was airworthy again ; but two days later it crashed and the two pilots, both non-climbers, were lucky to escape unhurt and find their way on foot to Tukucha. Yeti was not used again. The outcome of all this was that only three climbers and four Sherpas were left to their own resources on the north-east col to set up four high camps on the 2,000 m. north-east Spur with inadequate reserves of food ; to add to the climbers' problems two of their Sherpas failed them. The leader was isolated by himself on the north-east col, so out of touch with his party (two weeks without communication of any sort) as to find himself wondering ' Was yesterday summit day ? ' The rest of the party were spread out below.

The author himself acknowledges that one cannot allow the outcome of an expedition to a major peak to be entirely dependent upon the functioning of an aeroplane. Also, I am not convinced that the best way for a climber to acclimatize is by putting him in an aircraft and depositing him on a snow pass at over 17,000 feet within an hour of his leaving a steamy germ-ridden camp at sea-level. Such an abrupt change laid low the strongest, and one soon had to be evacuated for a lengthy recovery. That the others managed to acclimatize later despite this violent treatment is a tribute to their strength and personal fitness.

However, it is the result that counts ; and when we get down to the story of the climbing in the last 50 pages of the book we are told how four climbers and two Sherpas reached the summit on May 13th. On May 23rd, two more climbers reached the top. On the whole they appear to have been treated kindly by the weather.

On page 142, too much is made of the situation at Camp V. It was perfectly natural that the defeated first summit party should vacate the camp in order to make room for the ascending second summit party. They themselves ought to have offered to do so. Finally, the author's claim on page 159 is false. Six men on an 8,000 m. summit is not unique ; has he not heard about the French ascent of Makalu in 1955 ?

T. H. BRAHAM

LETTER TO THE EDITOR

From
Professor N. E. Odell,
c/o Clare College,
Cambridge.

Alpine Club,
74 South Audley Street,
London, W.1.

THE EDITOR,
The Himalayan Journal.

DEAR DR. BISWAS,

At the Alpine Club, London, on 5-2-63, we listened to an excellent and modestly expressed account by Mr. Hari Dang of the second Indian attempt on Everest in 1962, to which due tribute was given by several members present, apart from the general acclamation. A criticism, however, had to be levelled at the unfortunate use by the lecturer, and presumably the Indian party, of certain faulty names of topographical features in the Everest group, which have been introduced by the Swiss surveyors. Particularly to be noted was the quite unwarranted re-naming of the well-known Lho La for the spurious 'Khumbu La', as proposed recently by the Swiss.

In an article, entitled 'Lho La', in the *Alpine Journal*, Vol. LX (No. 290), May 1955, I discussed this matter at some length, and, *inter alia*, pointed out that considerable confusion will be (and indeed has already been) caused on the part of the Swiss by this arbitrary and quite unjustifiable proposal to change the name of the time-honoured Lho La (of Mallory), and to transfer the latter name to the South Col. I indicated that, as we had found in 1924, 'Khumbu La' is already preoccupied as a local name for the Nangpa (or Nangba) La, the important traders' pass, lying west of Cho Oyu, and leading from Tibet into the Solo *Khumbu* district.

Moreover, it must be emphasized that British mountaineers and scientists do not accept the proposed Swiss changes of name; and this is confirmed on the new map, 'The Mount Everest Region', scale 1 : 100,000, published by the Royal Geographical Society and the Mount Everest Foundation in 1961. Consequently, it is to be hoped that the Indian authorities, and certainly mountaineering parties, will give due consideration to these matters, and not be responsible for extending the confusion in topographical nomenclature that the unnecessary and obnoxious amendments have so unfortunately made.

Yours truly,
N. E. ODELL

The Editor, *The Himalayan Journal*, will not be responsible for the opinion expressed in it. —EDITOR

CLUB PROCEEDINGS, 1961-62

The Thirty-third Annual General Meeting of the Club was held at the Saturday Club, Calcutta, on Tuesday, November 28th, 1961. Lt.-Gen. Sir Harold Williams took the chair, and reported on the Club's activities during the year.

Officers, Elective Members of the Committee and Additional Members of the Balloting Committee were elected as follows: —

Officers

President	...	Lt.-Gen. Sir Harold Williams, K.B.E., C.B.
Vice-Presidents	...	T. H. Braham, Esq. F. C. Badhwar, Esq., O.B.E.
Honorary Treasurer	...	B. W. Ritchie, Esq.
Honorary Secretary	...	D. G. Cowie, Esq.

Honorary Local Secretaries

Delhi	...	Col. M. Valladares
Darjeeling	...	M. J. Cheney, Esq.
Bombay	...	R. E. Hawkins, Esq.
Simla Hills	...	R. E. Hotz, Esq.
Dehra Dun	...	Gurdial Singh, Esq.
Pakistan	...	Col. E. Goodwin
Great Britain	...	V. S. Risoe, Esq., M.B.E.

Honorary Editor

Dr. K. Biswas, M.A., D.Sc., F.R.S.E., F.N.I., F.A.S., F.B.S.

Members of Committee

C. E. J. Crawford, Esq.
R. E. Hawkins, Esq.
M. Hruska, Esq.
A. Kauffman, Esq.
R. Lawford, Esq.
K. Patterson, Esq.
Gurdial Singh, Esq.
Brig. Gyan Singh

Additional Members of Balloting Committee

J. T. M. Gibson, Esq.
A. R. Leyden, Esq.
J. N. Mathur, Esq.
A. Madgavkar, Esq.

Other Appointments

Honorary Librarian	...	R. Lawford, Esq.
Honorary Equipment Officer	...	M. Hruska, Esq.

The meeting was followed by Mr. Hruska giving an account illustrated by slides of two parties that he had taken to the Kanchenjunga area. Twenty-three members and guests attended the meeting.

The Thirty-fourth Annual General Meeting was held at the Gymkhana Club in Bombay, on June 1st, 1962, at which the President took the chair.

The following Office-bearers of the Club were elected: —

Officers

President	...	Lt.-Gen. Sir Harold Williams, K.B.E., C.B.
Vice-Presidents	...	T. H. Braham, Esq. Brig. Gyan Singh
Honorary Treasurer	...	B. W. Ritchie, Esq.

Honorary Local Secretaries

Delhi	...	Col. M. Valladares
Darjeeling	...	M. J. Cheney, Esq.
Bombay	...	R. E. Hawkins, Esq.
Simla Hills	...	R. E. Hotz, Esq.
Dehra Dun	...	Gurdial Singh, Esq.
Pakistan	...	Col. E. Goodwin
Great Britain	...	V. S. Risoe, Esq., M.B.E.
Kathmandu	...	Lt.-Col. C. G. Wylie

Members of Committee

Dr. K. Biswas, M.A., D.Sc., F.R.S.E., F.N.I., F.A.S., F.B.S.
C. E. J. Crawford, Esq. — A. Kauffman, Esq.
R. E. Hawkins, Esq. — R. Lawford, Esq.
M. Hruska, Esq. — Gurdial Singh, Esq.

Additional Members of Balloting Committee

J. T. M. Gibson, Esq.
A. R. Leyden, Esq.
J. N. Mathur, Esq.
A. Madgavkar, Esq.

Other Appointments

Honorary Editor	...	Dr. K. Biswas, D.Sc.
Honorary Librarian	...	R. Lawford, Esq.
Honorary Equipment Officer	...	M. Hruska, Esq.

The meeting was attended by sixteen local members as well as by General Williams from Roorkee and by the Honorary Treasurer, Mr. B. W. Ritchie, from Calcutta. All previous annual general meetings have been held in Calcutta, where the registered office of the Club is situated and where the Honorary Secretary and Treasurer reside. As the Club's membership is scattered over the five continents as well as many parts of India, it is not practicable to set up any pattern for varying the venue of meetings so that every member can have the chance to attend, but it is hoped that the experiment will be repeated. It is evident that members outside Calcutta appreciate the opportunity of attending general meetings of the Club.

After the meeting Mr. H. V. R. Iengar showed slides of his visit to Kangchenjhau in 1960.

MEETINGS : Apart from the Annual General Meetings, the following gatherings took place: —

Calcutta : An evening function was held in February, 1961, when Mr. John Harrison, who was on his way through Calcutta to join Sir Edmund Hillary's expedition, gave an illustrated lecture on the 1957 New Zealand Antarctic Expedition.

Bombay : Brigadier Gyan Singh showed the film of the first Indian Everest Expedition to local members of the Club and to the members of the Mountaineering Committee on September 4th, 1961.

On July 25th, 1962, the Alliance Française invited local members of the Club to see the film of the 1959 Expedition to Jannu, entitled Mont Jannu.

MEMBERSHIP : The Club's membership at present stands at 603, of whom 180 members are resident in India, Pakistan and Nepal. The names of 29 Founder Members stand in the Current Members' Register, and seven Honorary Members.

OBITUARY : We mourn the deaths of the following members:

W. Bischof (1951).
Major L. W. Bird, D.S.O., O.B.E. (1936).
Cdr. R. A. Kilroy (L. 1946).
R. P. Mears (L. 1928).

W. A. Moore, M.B.E. (L.F. 1928).
P. L. Pierce (1956).
H. Ruttledge (L.F. 1928, O.M.C. 1927).

As we are going to press we learn with deep regret the death of Mr. Wilfrid Noyce while climbing with Sir John Hunt's British-Soviet Expedition to the Pamirs. He and Robin Smith fell in a deep crevasse.

Also as a further blow to mountaineering we learn of the death of Major E. J. E. Mills while climbing Kunyang Chish. He and Capt. M. R. S. Jones were killed by an avalanche.

LIBRARY : While the library has become well established at the Geological Survey of India building in Calcutta, a catalogue of books has not yet been prepared. The Committee in Calcutta have been somewhat short-handed recently but it is hoped that the work will be completed fairly soon.

EXPEDITIONS, 1961 : A brief summary of the expeditions are given below. Most of them have been fully reported elsewhere in the *Journal.*

NEPAL

A British Expedition led by J. Walmsley which made the first ascent of Nuptse, 25,850 feet.

An Indian Services Expedition led by Lt. M. S. Kohli, which made the first ascent of Annapurna III, 24,858 feet.

An International Expedition led by Sir Edmund Hillary made the first ascent of Ama Dablam, 22,494 feet, and Puma Dablam, *c.* 21,000 feet. An attempt was made on Makalu, 27,790 feet, reaching 27,400 feet.

A British Expedition led by J. B. Tyson climbed Matathumba in the Sisne Himal.

A British Army Expedition led by Capt. J. S. Keen climbed in the Mingbo Valley.

A Japanese Expedition led by T. Marimoto attempted 'Big White Peak ', 23,240 feet, reaching 23,120 feet (Jugal Himal).

A Japanese Expedition led by K. Marimoto attempted Langtang Lirung, 23,750 feet. At about 20,000 feet an avalanche killed the leader, K. Oshima, and Sherpa Gyaltsen Norbu.

A Third Japanese Expedition attempted Manaslu II (Peak 29) but failed to reach the summit.

A German Survey Expedition led by Herr Schneider visited the Hongu Khola area.

KARAKORAM

An Austrian Expedition led by E. Waschak made the first ascent of Mount Ghent, 24,280 feet. They also climbed Silver Throne, 22,640 feet.

The Royal Air Force Expedition to the Aling Glacier was led by Gr. Capt. A. J. M. Smyth. Four peaks were climbed to over 21,000 feet. Reconnoitred K6 from S.W. reaching about 20,000 feet.

A German Expedition led by Dr. K. M. Herrligkoffer attempted Nanga Parbat, 26,660 feet, by the Diamir Face, reaching 23,458 feet.

A small American Expedition led by F. K. Knauth attempted Paiju, 21,500 feet.

A Cambridge University Expedition led by W. P. Gamble undertook survey work on the Minapin Glacier.

GARHWAL

An Indian Expedition led by N. Kumar made the first ascent of Nilkantha, 21,640 feet.

An Indian Expedition led by Gurdial Singh attempted Nanda Devi, 25,645 feet, and reached 22,000 feet. They also climbed Devistan, 22,000 feet, and Maiktoli, 22,320 feet.

An Indian Expedition led by P. Chaudhuri climbed Nanda Kot, 22,510 feet.

An Indian Expedition led by B. Biswas attempted Mana, 23,862 feet.

An Indian Expedition led by J. Nanavati attempted Nilgiri Parbat, 21,400 feet, reaching 19,500 feet.

PUNJAB

The Derbyshire Expedition led by R. Pettigrew climbed White Sail, 21,148 feet, and Deo Tibba, 19,687 feet. Their attempt on Indrasan, 20,410 feet, failed 800 feet short.

A small expedition led by J. P. O'F. Lynam visited the Bara Shigri Glacier and climbed Peak 21,710 feet.

An Italian Expedition climbed Peak 20,830 feet in the Pir Panjal (Dibibokri Basin).

Two members of the Pinnacle Club's 1962 Nepal Expedition, Barbara Spark and Josephine Scarr, visited the Bara Shigri and climbed Central Peak, 20,600 feet, and Lion, 20,000 feet. They also attempted Peak 20,495 feet.

SIKKIM

An Indian party led by S. Gyatso climbed Kangchenjau, 22,603 feet. They also made first ascents of Chombu, 20,872 feet, and Yulhekhang, 21,090 feet.

HINDU KUSH

An Italian Expedition led by Prof. A. Desio visited the Koh-i-Baba Range.

A German Expedition led by K. Brenner climbed 14 peaks in the Baba-i-Dewana range. The highest being Shahkh-i-Kabud, 20,013 feet.

Two small parties led by Major E. J. E. Mills visited Swat Kohistan and climbed Khan Shai, *c.* 18,700 feet.

A small party led by W. Bartlett attempted Falak Sar in Swat Kohistan.

EXPEDITIONS, 1962 : Recorded below are brief notes on this year's expeditions.

NEPAL

An Indian Expedition led by J. Dias attempted Everest, 29,028 feet. They got within a few hundred feet of the summit.

A French Expedition led by L. Terray made the first ascent of Jannu, 25,294 feet. Eight members and a Sherpa reached the summit on April 27th.

A German/Swiss Expedition led by G. Lenser made the first ascent of Pumori, 23,442 feet.

There have been four Japanese Expeditions :

1. Led by S. Nakano, made the first ascent of Chamlang Peak, 24,012 feet.
2. Led by Prof. N. Sasuke, made the first ascent of Nupchu, 23,058 feet.
3. Led by A. Takahashi, made the first ascent of ' Big White Peak ', 23,240 feet, in the Jugal Himal.
4. Led by S. Ishizaka, climbed Hangde (*c.* 22,000 feet) in the Mukut Himal.

An American Expedition led by Prof. Woodrow W. Sayre attempted Gyachungkang, 25,910 feet.

A British Ladies' Expedition led by Countess Gravina abandoned their attempt on a 22,532 feet peak in the Jagdula Khola and instead made the first ascent of an unclimbed peak in the Kanjiroba Himal of about 21,000 feet.

A British Museum Scientific Expedition led by Dr. Ingles spent the winter 1961/1962 in the Taplejung Area of Eastern Nepal.

A British Botanical Expedition led by Viscount Glentworth visited the Trisuli and Langtang Valleys and also did some climbing.

A German/Swiss Expedition led by Herr Scheider visited the Rolwaling Himal.

A small Nepalese party climbed Tashi Lapcha, 21,000 feet.

Later this year J. O. M. Roberts is attempting Dhaula IV, 25,064 feet.

KARAKORAM

A German Expedition led by K. M. Herrligkoffer climbed Nanga Parbat, 26,620 feet.

A British/Pakistan Services Expedition led by Major E. J. E. Mills attempted Kunyang Chish, 25,762 feet. The leader and M. R. S. Jones were unfortunately killed during the attempt.

A Japanese Expedition is attempting Saltoro Kanjri.

Professor Desio is on a Scientific Expedition to the Hunza area.

PUNJAB

An Indian Army Mountaineering Association team attempted Leo Pargial, 22,210 feet. Unfortunately two climbers and a Sherpa were killed during the attempt.

SIKKIM

An Indian Army Expedition led by Major K. S. Rana climbed Koktang, 20,990 feet.

HINDU KUSH

A German climber, Herr Staininberger, attempted Tirich Mir, 25,260 feet, reaching 21,500 feet.

A small party led by F. K. Knauth is attempting Tirich Mir.

FUTURE EXPEDITIONS :

1963 : An American Expedition is planning to attempt Everest, Lhotse and Nuptse. N. Dyhrenfurth is the leader.

Sir Edmund Hillary plans to lead an expedition to Nepal and attempt Taweche, 25,500 feet.

An expedition from Australia plans to visit the Punjab Himal.

1964 : The Germans plan to attempt Everest.

***HIMALAYAN JOURNAL*, VOL. XXIV :** All papers intended for publication should be forwarded to the Hon. Editor, c/o The Himalayan Club, Post Box No. 9049, Calcutta 16. It is requested that articles should be typewritten, and preferably accompanied by sketch-maps ; these should be clearly drawn in Indian ink with references given, if possible, to the existing Survey sheets. Photographs should be clear, with definition as sharp as possible ; they

should be at least half-plate size printed on glossy paper. The Editor will be glad to receive articles of general Himalayan interest and also on subjects other than climbing.

***JOURNAL* BACK NUMBERS:** The only volumes now available for sale are Vols. XVII, XIX, XX, XXI and XXII which are priced at Rs.10 per copy, post free for members, and applies to one copy per member. In some cases additional copies can be made available at Rs.14 per copy, post free.

DESPATCH OF THE *JOURNAL*: Responsibility for non-delivery of the *Journal* cannot be accepted if members do not notify their change of address. Considerable trouble is caused in re-addressing *Journals* returned, and duplicate copies cannot be sent except on payment.

CHANGE OF ADDRESS: Members are requested to notify the Hon. Secretary promptly of any change of address. If this *Journal* has not been correctly addressed, will you please advise the Hon. Secretary immediately of the amendments or alterations.

TIGER BADGES: The following Tiger Badges have been awarded and will shortly be presented to the recipients:

Mingma Tsering, H.C. No. 340, for Makalu, 1961.
Memba Tensing, H.C. No. 341, for Makalu, 1961.
Nima Dorje, H.C. No. 345, for Makalu, 1961.

LONDON REUNION: We would like to remind members that Mr. V. S. Risoe is planning a London Reunion next year. The date has been set for Friday, March 29th, 1963.

LOST MEMBERS: The Club is still endeavouring to trace a few Life Members with whom they have lost contact. Any information as to their whereabouts will be greatly received by the Honorary Secretary.

B. Amsden, Esq.
Col. G. Davidson.
Capt. C. G. Funnell.
Miss P. M. Horne.
Col. I. H. Lyall Grant.
Mrs. R. T. Merrick.
C. H. Pitt, Esq.
Mrs. P. F. Scott.
Ft.-Lt. W. M. Starr.

***JOURNAL* INDEX:** Members will be pleased to note that Mr. D. F. O. Dangar has compiled an index for the *Himalayan Journal* covering Vols. I to XXI. Mr. V. S. Risoe is looking after the publication. The *Journal* Index was ready by August/September this year. Would members please note that *it is not being sent automatically.* It will, however, be despatched free of charge, and requests should be sent to the Honorary Secretary. If you would like a copy, would you please write as soon as possible so that the work of despatching can be simplified.

JOURNALS RECEIVED: We gratefully acknowledge receipt during the year of the following journals and publications in exchange of our *Journal*:

The Alpine Journal.
The Geographical Journal.
Journal of the Royal Central Asian Society.
The British Ski Year Book.
Yorkshire Ramblers' Club Journal.
The Rucksack Club Journal.
Cambridge Mountaineering.
The Scottish Mountaineering Club Journal.
Mountaincraft.
The American Alpine Journal.
The New Zealand Alpine Journal.
The Journal of the Mountain Club of South Africa.
Appalachian Club Bulletins.
La Montagne et Alpinisme.
Jahrbuch des Deutschen Alpenvereins.
Journal of the Swiss Foundation for Alpine Research.
Japanese Alpine Club Journal.
Journal of the United Services Institution, India.
The Italian Alpine Club.
The Norwegian Climbing Club (*Norsk Tindeklab*).
The Canadian Alpine Club.
The Argentina Mountain Club.
Austrian Alpine Club.
The Climbers' Club.
The Fell and Rock Club.
Himalayan Mountaineering Institute.
Mazamas.
Pinnacle Club.

THE HIMALAYAN CLUB

INSTRUCTIONS TO AUTHORS FOR THE PREPARATION OF ARTICLES FOR THE *JOURNAL* OF THE HIMALAYAN CLUB

I. Each article should be signed by the author or authors and forwarded to the Editor with necessary instructions, if any.

II. Authors are requested to write their articles as concisely as possible, not exceeding 5,000 words for major expeditions and 2,000 words for minor ones.

III. The MS. must be easily legible, preferably typewritten, with double spacing, on one side of the quarto or foolscap paper and with pages numbered throughout. It must be in its final form for printing. Authors are advised to retain copies of their papers as the Club cannot accept responsibility for safe custody.

IV. References to plates, photographs, etc., should be inserted in the MS. where required. Position for the insertion of illustrations appearing in the text should be indicated.

All photographs, maps and drawings should, where possible, allow reduction to about two-thirds the linear dimensions, and the amount of the reduction should be considered, during drafting, with regard to the size and strength of shading, lettering, lines, etc. Maps should be submitted, if possible, not rolled. The overall space available for figures and plates is 7″ (17 cm.)×4″ (10 cm.) in the *Journal* of the Club.

V. Four to five photographs and two maps for articles on major expeditions and two photos and one map for minor expeditions will generally be accepted for publication in the *Journal*. Exceptions will be made in special cases.

VI. Photographs should be unmounted glossy black and white prints, marked on the back with the name of the author, number of the figure and an indication of the top. Prints should not be trimmed or cut out. Authors should suggest the arrangement of the figures on each plate, either by a diagram or a paste-up of rough prints, with indication of any lettering to be inserted. Lettering must be in black ink in neat and legible style, or lightly written in pencil.

Proofs of papers will be sent to authors or communicators to the address indicated in correspondence, or on MSS. if necessary. Normally the editor is to correct the proofs. The cost of author's

corrections in excess of 5 per cent of the printer's charges for the setting of a particular paper will be charged to the author.

References to previous volumes and number of the particular *Journal* in the text should be made by quoting the author's name, the volume and page number and the year of publication of the paper in the said *Journal.*

Manuscripts for publication should be submitted to the Editor, The Himalayan Club, P.O. Box No. 9049, Calcutta 16.

EDITOR,

Himalayan Journal.

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