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THE RECONNAISSANCE OF MOUNT EVEREST, 1951

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ON July 19, 1921, Mallory and Bullock climbed from the West Rongbuk glacier on to the North-east Col of Pumori and for the first time looked down on to the Khombu glacier of Mount Everest. The West ridge hid from them both the upper basin and South Col, but what they could see, Mallory summed up thus :

'We have seen this western glacier and we are not sorry we have not got to go up it. It is terribly steep and broken. . . . It was not a very likely chance that the gap between Everest and the South Peak could be reached from the west. From what we have seen now I do not fancy it would be possible even could one get up the glacier.'

Thirty years later, Michael Ward, Campbell Secord and I were able to look at Mallory's own photograph taken from that same spot and yet arrive at a more optimistic conclusion. Nepal was open ; Tibet now closed. Where the light of hope can shine, the eye of faith may see and believe. And it shines no more in Tibet, which the Chinese Communists have seized. But in Nepal a new day has dawned. This same principle guided Mallory in one direction and ourselves in another.

Our hopes of last year were supported by two other photographs. One was taken by Tilman when he and Houston's American party made their pioneer trip to the lower Khombu glacier in November 1950. Tilman's photograph showed the Upper Khombu glacier flanked by the high West ridges of Everest and Lhotse, between which it poured level at a height of apparently 20,000 ft. (it is in fact higher), then burst through a slit where the walls drew together. The narrows were a quarter of a mile wide. The glacier plunged through them to the valley floor in an icefall of more than 2,000 ft., then turned sharply south into Sola Khombu. The photograph was substantially the same as Mallory's. It gave us good news of a negative kind—no reason to believe that the icefall was unclimbable. It did not, however, show the South Col.

The second was an aerial photograph. It revealed the South-east ridge of Everest, which drops 3,300 ft. to the South Col, as broad, snow-covered, apparently not difficult. It too showed nothing of the South Col. This absence of information about the western slopes of

the col seemed to demand a reconnaissance expedition, more particularly when the ground below and above bore no mark of impossibility.

The men who knew Everest best were most pessimistic about our finding a route on this west side of the massif. Moreover, from the top of the icefall the glacier seemed to run level into the upper basin. If this were so, then the South Col slopes might rise 6,000 ft. in four miles. That is, the col would lie above the basin at the same height and angle as the Matterhorn's summit above the Schwarzsee. It is one of the few disadvantages of great experience that a man is apt to discover too many excellent reasons why an adventurous proposition should be impossible; and one of the advantages of inexperience (when high spirits go along with it) that he has an urge to attempt the impossible, which he will then achieve if Providence so disposes.

The dynamic urge was supplied last year by Michael Ward, whose Alpine experience was unadulterated by Himalayan. His correspondence and conversation, alike explosive, had highly desirable effects. He had a powerful abettor in Campbell Secord, who put the proposition for an autumn reconnaissance before the Himalayan Committee. Since no other route was open to us the Committee sponsored the expedition.

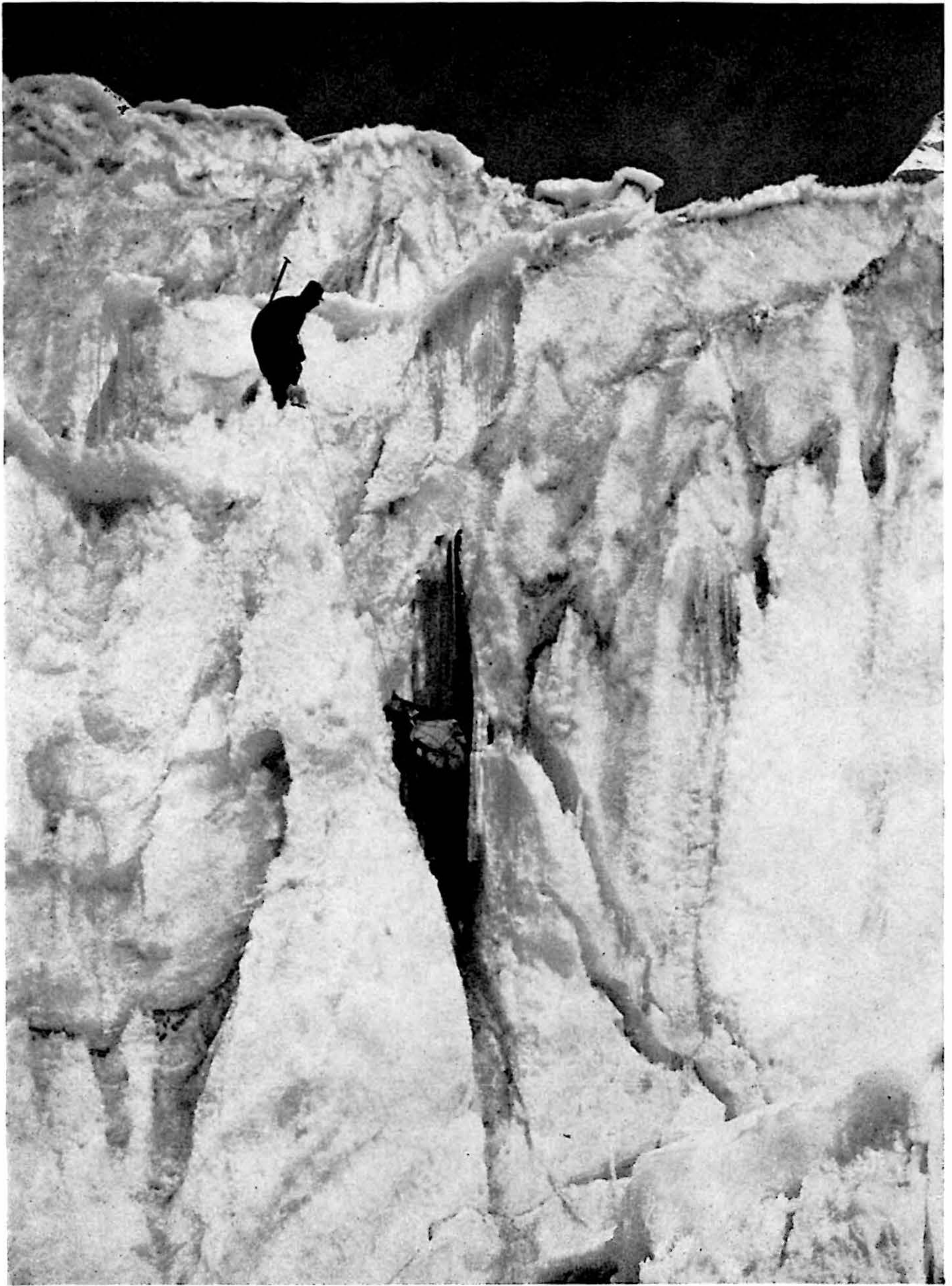
The party agreed upon consisted of Michael Ward, Tom Bourdillon, Alfred Tissières and myself. Tissières' professional duties obliged him to withdraw, and then Eric Shipton came back unexpectedly from China. This was the arrival of the right man at the right moment. We asked him to lead the expedition, because no one alive knew Everest better than he. Later on, when we reached Nepal, we were to be joined by two New Zealanders, E. Hillary and E. Riddiford.

It is worth recording that this is the first instance where the members of an expedition to Everest have chosen themselves, chosen their leader, and initiated the expedition. It is unlikely to happen again.

Supposing Everest to be hopeless we should need a second objective, and for this chose Cho Oyu. In any event a reconnaissance of it would be made and the surrounding mountains explored so far as time allowed. In regard to Everest there were four questions to which we had to try to find answers. Could a way be found through the icefall? Were the slopes of the South Col climbable? Was the South-east ridge as easy as it looked in the photograph? Was autumn a better or worse season than spring for an attempt on the summit? If we could answer the first three of these questions in the affirmative, then a new chapter would open in the history of Mount Everest.

The party assembled at the railhead of Jogbani in south-east Nepal on August 23. We had arrived in mid-monsoon with the prospect of a thoroughly unpleasant march in front of us. We received hospitality from Mr. T. G. Law, the resident engineer at Biratnagar Jute Mills, and his wife. They told us that Jogbani gave a better view-point for Everest than Tiger Hill, Darjeeling; but alas! Everest and all other peaks had long since been submerged in the cloud-sea.

As measured on the map, our march to Namche Bazar, the Sherpas'



PASANG AND RIDDIFORD ON NUP LA ICE-FALL.

headquarter village in Sola Khombu, was 140 miles, then 20 miles north-east to Everest. In the course of it we should rise from 300 ft. to 18,000 ft. at base-camp on the Khombu glacier. We reckoned that the journey to Namche would take a fortnight, but in monsoon rain that time was destined to be doubled; river-flooding, the need of detours, the recalcitrance of Tamung coolies—of such were the route's delays.

We had asked Angtharkay to meet us at Jogbani with four Sherpas. He turned up with fourteen, of whom one was female. This was a providential acquisition (the ten extra Sherpas) in view of the Tamung trouble to follow. We set off on August 27. Col. R. R. Proud, of the British Embassy at Katmandu, kindly travelled with us for a few days to ensure that we got safely away.

Our first stage went thirty miles by lorry to the road-head at Dharan; a journey of six hours. The road was a mud-track driving straight across green fields of jute, where long-legged white birds waded in the marshes. At night the air was alive with fire-flies. Dharan lay at the very base of the foothills. We stopped at the Governor's empty house and there engaged some twenty-five Tamungs. Then we took to our feet.

Two days steeply up and across hill-ridges, one of 4,000 ft., brought us to the little township of Dhankuta. There our Tamungs deserted. They hated marching in the rains, this was their District boundary, and they would go no farther. We lost two days getting new men. Dhankuta was a delightful little township stretched along the crest of a ridge at above 4,000 ft. on a rising incline. Looking down, we saw streets of red dust and flagstones lined by green trees, by domed temples with stone bulls outside, and by white houses, whose verandahs of bright green or blue were festooned with flowers. The entire village positively sparkled in the sun (when it shone) against a background of wooded hills.

Beyond Dhankuta we crossed a ridge of 6,000 ft. and descended 5,000 ft. to the Arun River, which we crossed from east to west by means of a dug-out canoe. This was malarial country, but safe enough when one takes Paludrine. The heat was intense; we marched stripped to the waist. At every opportunity we walked straight into the river and wallowed like water-buffaloes. Not once between Jogbani and Namche did we ever have to pitch a tent at night. Always Angtharkay found us lodging in house or hut. Usually we slept in the loft on top of corn-cobs, but occasionally down on the ground floor alongside a tethered calf. The hospitality thus shown to us was indeed a blessing; none of our tents could have withstood monsoon rain. If there are any unfriendly people in Nepal we never met them.

We travelled three days in the Arun valley. On the second day we climbed up to the village of Komaltar. Thus far we had at rare intervals but fleeting glimpses of the high Himalaya. Early in the morning we came out of Komaltar on to a little plateau. Deep beneath our feet lay the Arun valley and forty-five miles beyond were the Snows.

It was a perfect morning. The sun slanted low and golden over the foreground grass; the vast basin of the Arun brimmed with a pale purple haze; and far back, amid a white tangle of peaks, crouched the Everest massif, like a titan Atlas supporting on hunched shoulders the whole blue heavens.

Next day we came to Dingla at 5,000 ft. Once again our Tamungs deserted, and this time we were held up for four days. The delay allowed Hillary and Riddiford to catch up with us. They had been climbing during the summer in western Garhwal and turned out to be excellent men. Henceforth we left the Arun and struck north-west to reach the Dudh Kosi, which would lead us direct to Namche Bazar.

This was the worst part of our journey. Rain fell incessantly, leeches everywhere abounded, and their bites caused septic sores. We were now moving against the grain of the country and had to cross three passes of 10,000–11,000 ft. The rivers between were in spate. At one of these, the Inukhu Khola (a tributary of the Dudh Kosi) we had our first stroke of good fortune in finding its milky flood spanned by a three-log bridge, which within one hour of our crossing was swept away.

Our luck was promptly countered. A swarm of huge hornets attacked us on the far side. It is said that five stings from a hornet can kill a man. Several of our Tamungs got two or three stings and collapsed. They could no longer carry loads and had eventually to be discharged. Beyond this river we climbed our third 10,000 ft. pass and so, after three weeks' travel, came down on the Dudh Kosi. We were now in Sola Khumbu, the Sherpas' home-country. On this same day, September 20, the monsoon ended.

In all its lower part the Dudh Kosi is an open, sunlit valley, spattered with villages. The Sherpas turned out and lined the route. Every household brews and distils its own *chang* and *rakshi* (beer and spirit) and at every turn we were waylaid by almond-eyed bowl-bearers, so that our progress up the valley tended to be slow and erratic. Many were the toasts that were drunk to the health of the Treasurer of the Himalayan Committee. In its upper part the Dudh Kosi becomes a rock-gorge. Splendid snow and rock peaks rise to each side. Only a few miles up this gorge we broke out on the north side by a steep, pine-scented track, which in 1,700 ft. brought us out at long last at Namche Bazar.

Namche is set in a bowl of the hills at 12,000 ft. Sixty houses and more are arranged round the amphitheatre in tiers, and the whole is backed by great snow-peaks. It is notable that this village, and others even higher like Khumjung at 13,000 ft., are occupied all the year round; whereas in the central Himalaya villages at 11,000 ft. are in winter buried right over the roofs by snow; the upper valleys have to be evacuated. It seems that in the Everest region the winter climate is relatively dry and the Sherpas can move about without undue inconvenience. Again, the rivers draining the huge mountain cirque from Cho Oyu to Everest and Makalu are remarkably small. One wonders how they can possibly be so small, especially when they drain southward-flowing glaciers,

until one learns that the snow-fall is negligible compared to that of the western Himalaya. They must also lose much of their substance by direct evaporation. We found a rain-gauge at Namche. It had been set up some years ago by the Indian Survey and records are being kept by the Gorcha (headman). These records show the mean annual rain-fall to be thirty inches. The only point to be verified is whether the Gorcha keeps them accurately. That he does so, I was assured by G. N. Dutt, an Indian geologist who arrived while we were still in the village.

Sherpa houses are quite unlike those of the Indian Hills. They are solidly built of good stone in two storeys. Only the upper half is inhabited. The rooms are big and spacious with high roofs and wooden floors and window-frames. A fire is kept burning against one wall, and around the others are great shelves bearing huge, shining copper gourds filled with grain or water, polished wooden churns, brass bound, for making Tibetan tea, tubs of *chang*, silver and china cups, and teapots. One of the elders swings a Tibetan prayer-wheel beside the fire, above which maize is drying on a bamboo mat. The floors are clean and there are no offensive smells. The houses have double roofs, the inner of bamboo matting, the outer of heavy wooden slats.

We stopped two days at Namche to reorganise and engage Sherpas. On September 25 we set off on the last lap, twenty miles north-east to Mount Everest. That first night we stayed at Thyangboche monastery. It is set on a hill-top at 13,000 ft. where the Imja Khola joins the Dudh Kosi. The traditional Chinese tent had been pitched for us on a four-acre meadow before the monastery. The Lama received us with great kindness. On this and other occasions he entertained us with Tibetan tea (which we all liked), yak milk, boiled potatoes, and *rakshi*. Forty monks lived at the monastery, occupying a dozen houses that flanked the central temple.

The Lama showed us round the temple. We discovered above the courtyard an iron gong, which the monks beat in signal that village women working in the precincts must leave. On examining this gong we found it to be an old oxygen cylinder from a pre-war Everest expedition. The Sherpas had carried it home over the Nangpa La.

When we looked out of our tent in the morning we all agreed with Dr. Houston and Tilman that Thyangboche was the most beautiful place we had ever seen. At the farthest fringes of the meadow a screen of silver fir, pine and juniper trees sloped down north-east into the valley of the Imja Khola, which ran straight to the South face of the Lhotse-Nuptse ridge, on to which we now looked. The summit of Everest was snow-clad even on the steepest face. The meadow, lightly frosted, sparkled at the first touch of the sun—and the frost was no more. The light fired a ring of great and icy peaks, which just leapt out of the earth. Well to the right of the Everest group stood a vast and bluntly pointed mountain like the Mustagh Tower, all snow and ice. Its name, said the Sherpas, was Ama Dablam. Close at hand to the south-east were two great peaks which they named Kangdekha

and Tamashumu, and to the north, the white spire of Taweche. These mountains were all over 21,000 ft.

The temple, of pale red colour, and the white monastic houses, fitted perfectly into this scene. Annually in mid-November a religious festival is held at Thyangboche. In November two years ago, a great company of Sherpas had gathered there when the *yeti*¹ is said to have appeared through the screen of trees.

We left at midday. Travelling four miles farther up the Imja Khola, we turned north into the bleak valley of the Lobujya Khola, which drains the Khombu glacier. Stark and spiky mountains flanked it. We lodged in low stone houses at Pheriche and next day climbed on to the desolate scree of the Khombu glacier. Pumori, Lingtren and the North peak of Everest dominated the head of the valley. That night we pitched our tents in hail and drizzle, lower than we should have liked. We moved on in the morning but altitude was telling (our height was now 17,000 ft.) and progress was poor among a wild jumble of boulders. We camped beside a lake, only to find after reconnaissance that we were still too far from the great icefall. On September 29 we finally established base-camp at 18,000 ft. under Pumori. We faced the icefall across the glacier and our first impression was not too good. It looked more crevasse-riven than even photographs had suggested, and was obviously threatened by avalanches from the West ridge of Everest.

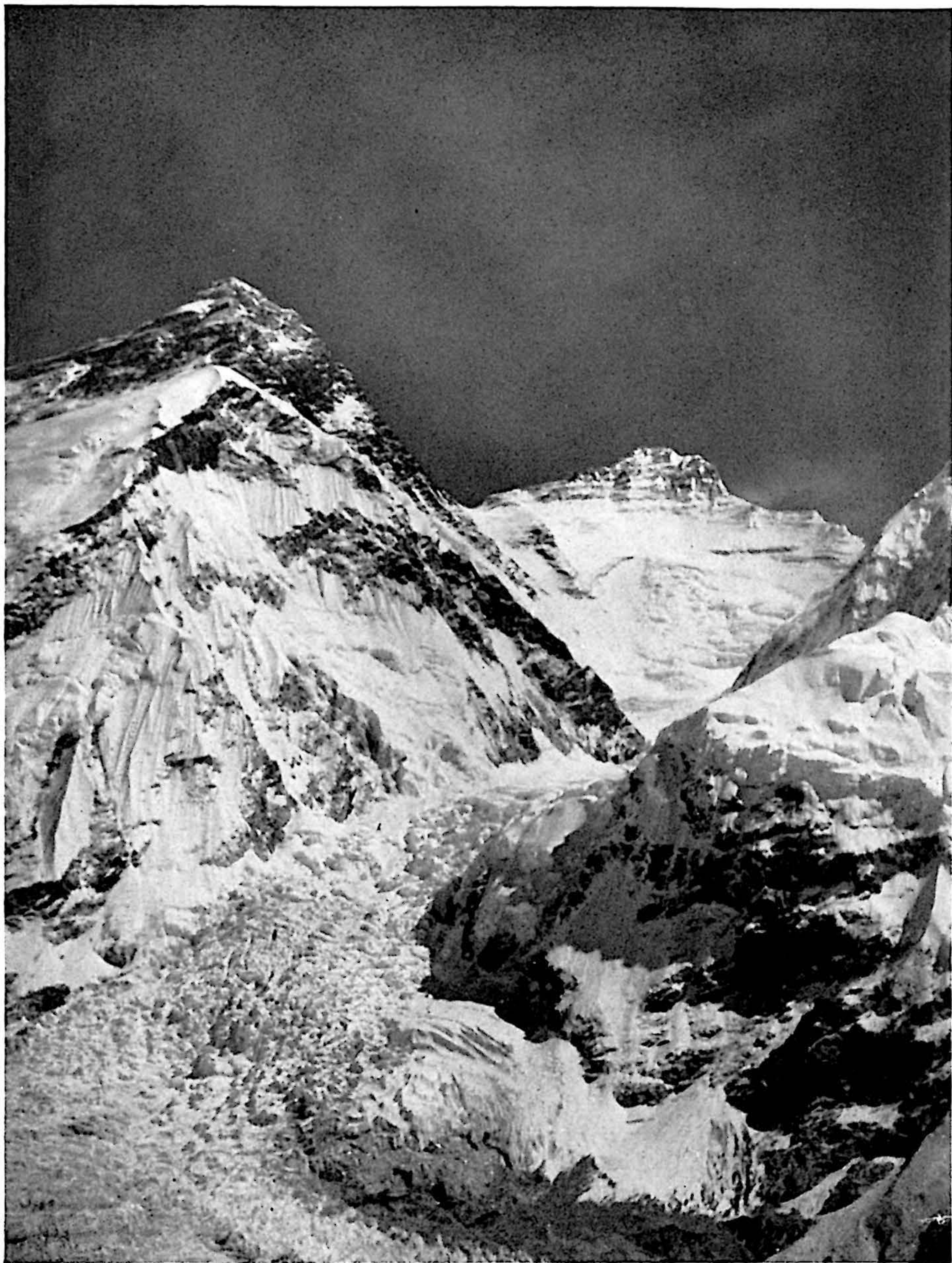
In the morning we made our first reconnaissance of the icefall and West basin.² Riddiford, Ward and Bourdillon went to the icefall itself, while Shipton, Hillary and I climbed up the East face of Pumori.

Shipton and Hillary followed a broad, rocky rib to 20,000 ft. or more, whereas I struck much farther north, 1,000 ft. lower, in order to see both the flank of the Lhotse-Nuptse ridge and the right-hand half of the icefall. The former appeared to be free of avalanche menace, whereas ice-avalanches discharged from the West ridge of Everest had been raking the left-hand half of the icefall. A white corridor of débris could be clearly seen stretching out across the glacier to its centre at about two-thirds of its height. From my own vantage point, which was a good one, I could detect no way at all of climbing up the icefall by its right-hand half. It seemed that we were thus limited to a central line. If Riddiford and company failed to find a good route there, our reconnaissance might come to an early end.

A much more enlivening sight was the anxiously anticipated vision of the South Col. I think that we were all fairly confident that somehow

¹ The 'Abominable Snowman.'

² I.e., the 'West Cwm.' Mallory's word *cwm* is well understood by all climbers who know North Wales, but it is not a convenient one. Unlike its synonyms 'Combe' and 'Corrie' it has not passed into the general body of our language, and its use has certainly puzzled foreign readers. Further, *cwm* is not a good word for the head of a glacier-filled valley; the word itself is not beautiful; and it cannot be pronounced by foreigners who are not familiar with the Welsh language. The common, and commonly accepted, word 'Basin' prevents misunderstanding and is used here.—Editor.



VIEW OF THE WEST CWM FROM ONE OF THE RIDGES OF PUMORI, SHOWING THE ICE-FALL, THE WEST FACE OF LHOTSE AND THE SOUTH COL (which appears in the centre of the picture).

we should fight our way through the icefall. But the success of our reconnaissance and events of future years would more definitely depend upon what we saw between the upper basin and the col. Gradually these slopes disclosed themselves. They were straightforward, not too steep even when seen face on, free of stonefall from Lhotse, and they were obviously climbable.

From their higher position, Shipton and Hillary could see the western glacier rise from the top of the icefall in broad, level steps to the basin, gaining perhaps 2,000 ft. in two miles. The basin appeared to lie at approximately 23,000 ft., thus leaving less than 3,000 ft. to the col. The best route up these slopes lay not in a direct line to the col, but up a broad icefall on the North-west face of Lhotse to a height of 25,000 ft., whence a rising traverse would go one mile to the col.

It is very evident that before such a long traverse can be justified the snow conditions must be indubitably good. I could not help reflecting that when camps are established on the South Col and higher, and the assault on the summit is launched, one night's snow-storm could cut off the party's retreat, or at best make it an unusually ugly proposition.

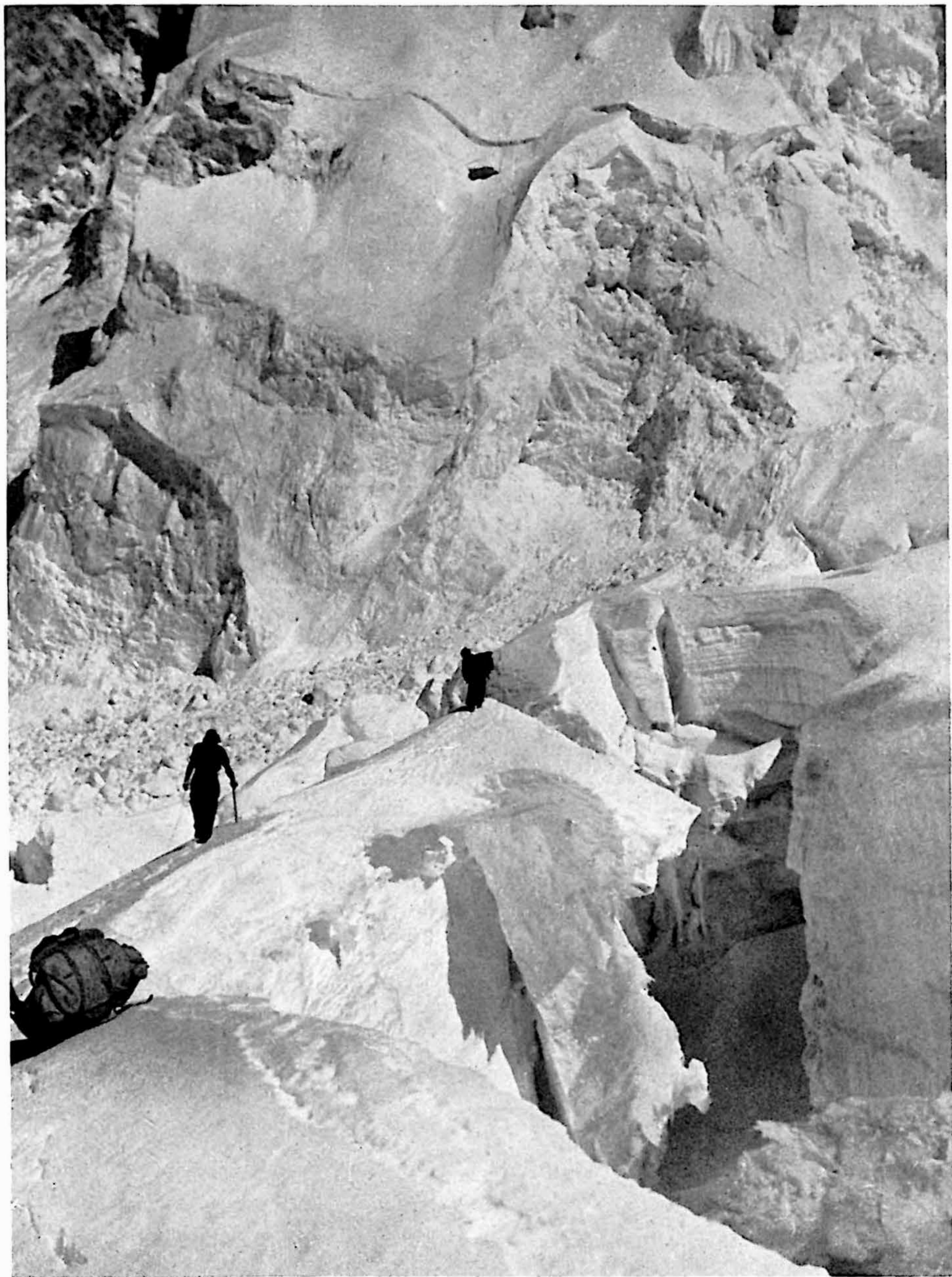
Our more immediate concern, however, was the icefall. While we studied the upper mountain, the others wrestled with the lower. Ward and Bourdillon tried the centre of the icefall and failed to find a start. Riddiford and Pasang Dawa had luckily gone much farther leftward and discovered a route slanting up to the centre. On this section they met few crevasses and had a relatively easy climb, but were slowed down by soft snow and the delays of route-selection. They climbed nearly half-way up the icefall.

When we all met in camp that evening Riddiford reported that the avalanche-corridor could be safely turned on the right. The upper icefall looked much more complicated and steeper than anything he had climbed, but he was sure that a way through could be found.

Our base-camp had proved to be two hours from the foot of the icefall, which was too far. It was agreed that we should pitch an advanced base and then try to get through the icefall in one day. None the less, it was plain that the snow was in poor condition, and plain too that Ward, Bourdillon and I were not yet acclimatised. In this respect Shipton and the New Zealanders had a great advantage over us. To allow the snow to settle and ourselves time to acclimatise, we agreed that after climbing the icefall we should break off the engagement with Everest and explore the mountains to the south and west, returning in two or three weeks. On October 2, Shipton, Hillary, Riddiford and Bourdillon moved off to their advanced base under the Lho La.

Ever since our arrival the wind had been blowing continuously from the south-west. It brought fair weather, the mornings being clear and the afternoons invariably cloudy. Most nights we had light snowfall. But on October 3 it snowed all day long and the icefall party could do nothing.

On October 4 Ward and I explored the western range of the Khumbu



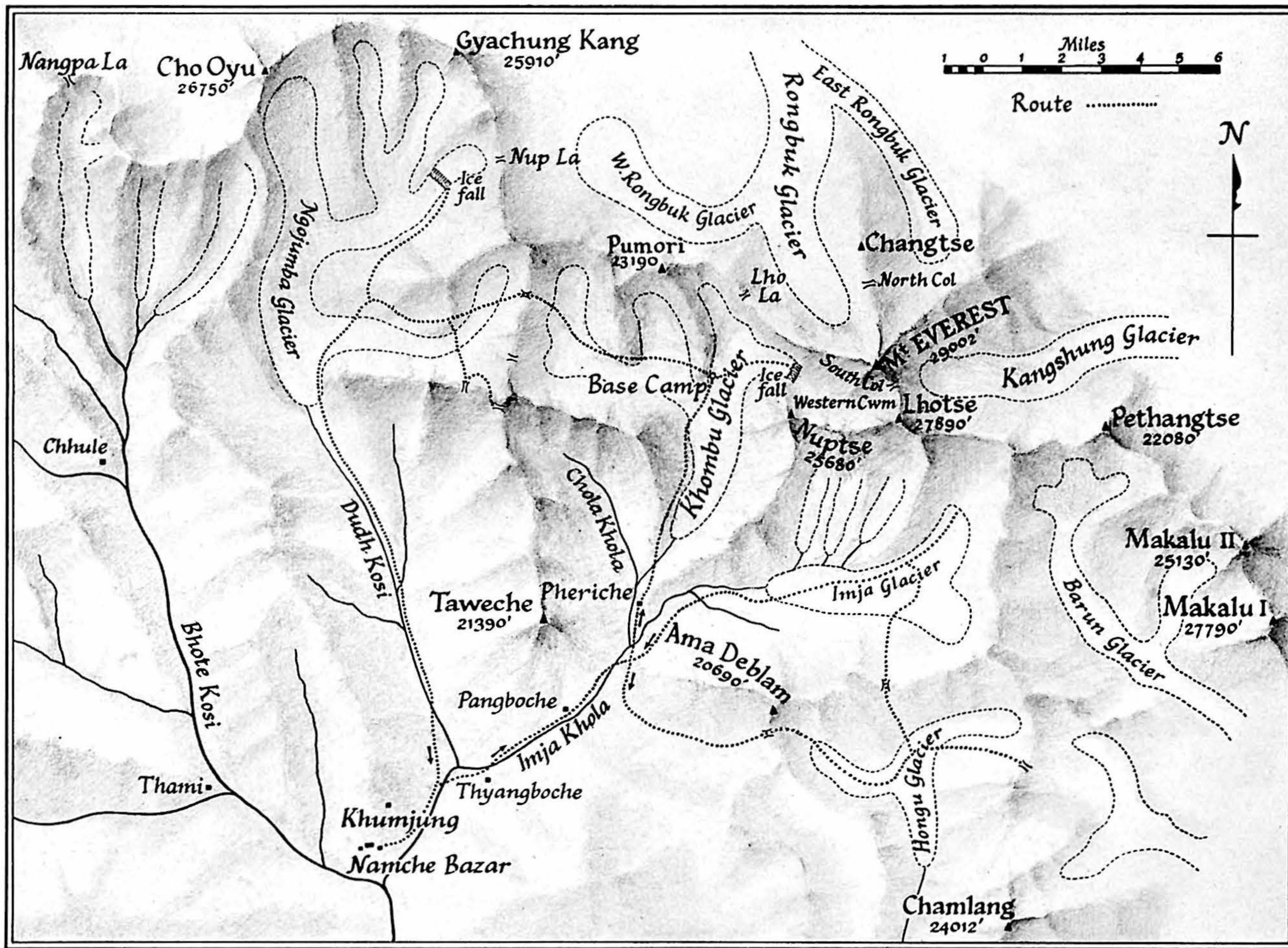
BOURDILLON AND SHERPA AT THE TOP OF THE CWM ICE-FALL.

valley in order to seek a pass by which we might later break into the tangled mountain country beyond. Just a little way south we discovered a promising side-valley and glacier leading up to inviting cols in the range. We returned to camp feeling fitter than ever before. Dusk fell shortly after 6 o'clock. We were in bed as usual about seven. At 9 P.M. we were startled to hear a commotion at the crest of the moraine high above the tents. We looked out and saw lights flashing. It was Pasang and Danu clattering back at top speed from advanced base. At once I was convinced that an accident had occurred; nothing else could have brought them back at such an hour. But some time elapsed before we could sort out and sift their tale of events aloft, and once again relax.

They had gone speedily up the first half of the icefall that morning, greatly profiting by Riddiford's old steps. At his farthest point Bourdillon had fallen out, being not yet acclimatised. The second half had been more difficult. Their route wound its way through a maze of great séracs and crevasses. The snow was sometimes hip-deep. Late in the afternoon they were almost at the top of the icefall at a height of 20,600 ft. They crossed a deep crevasse, above which a wall rose 40 ft. at a high angle, fell back as a shelving terrace, then steepened again to a short wall at the top. The total height of this obstacle was 100 ft. They had climbed on to the shelving terrace and Pasang was leading a traverse diagonally rightward to avoid the final wall, when the snow avalanched. Shipton and Pasang at either end of the rope leapt off the moving sheet on to stable snow. Riddiford in the middle was swept away. Pasang had the presence of mind to drive his axe up to the head and whip the rope round it. Shipton stood firm and between them they stopped Riddiford, who was now upside down near the edge of the crevasse.

This was all rather exhausting at nearly 21,000 ft., and by the time Riddiford was righted and order restored the hour was dangerously close to 5 P.M. They had to withdraw at once, which exasperated them when only 30 ft. from the top. On reaching camp, where they had already been a day longer than originally intended, they found the cupboard bare save for two packets of Maggi soup and a little *tsampa*. Pasang and Danu were thus despatched back to base to lessen the number of stomachs. At this not too unhappy ending to the tale we cared little that the icefall had not been climbed.

The icefall party returned at eleven next morning. We then heard the full story. A point worth noting was the persistence of cold on the glacier until late in the morning. The sun did not strike into the slit until nearly 10 A.M. In consequence, since all work was snow work, they were unable to keep their feet warm. I was particularly interested to hear that Riddiford and Hillary, the two acclimatised men, had had to remove their boots and massage the feet to avoid frostbite while the others had not been so obliged: thus supporting Howard Somervell's statement to the effect that risk of frostbite increases *pari passu* with acclimatisation, because the blood then becomes much more viscous



through production of red corpuscles and so fails to pass into the smaller blood-vessels when cold contracts them. On the icefall and up in the West basin, the tardiness of the morning sun makes special precaution against frostbite imperative.

That same day, Ward and I climbed to nearly 20,000 ft. on Pumori. I noticed that in the upper part of the West basin, which is a mile wide, a great avalanche had fallen off the Lhotse-Nuptse ridge, and that the débris had spread three-quarters of a mile across the floor. Camps there will have to be sited with care. The wind was still south-west and clouds of drift were blowing off Nuptse into the slit of the icefall. If this drifting were to continue there would seem to be little hope of our getting snow sufficiently good to allow us to climb on to the South Col.

We descended. Shipton and Hillary moved off to explore the mountains south of Everest, and in particular to try to find a pass near Pethangtse, which might lead down to the Kangshung glacier on the East side of Everest. We agreed to meet again 'sometime after the 16th.'

The Explorations of the Nup La and the Hongu Basin

In the course of the next six days, Ward, Riddiford, Bourdillon and I, with six Sherpas, carried our food and gear up the side valley running into the western range of the Khumbu. Delays had occurred in getting supplies up from the lower valleys, and then in ferrying fourteen days' food and gear up to the pass. Six Sherpas could not move all our gear in one 'lift.' However, on October 11 a camp was established in the glacier-basin of our valley's right-hand fork. Ward and I had already reconnoitred the pass and considered that we had a fairly good chance of finding a way down the far side.

We had several objectives in the country beyond. Sen Tensing had said that a pass at the head of the Chola Khola led into Tibet. According to the map our own pass must give access to the Chola Khola, and the pass at the head of the latter must lead into the West Rongbuk glacier. We wanted to cross this pass, and if time allowed we might be able to make a quick attack on Pumori by its North-east ridge. Secondly, we wanted to visit the Nup La. This col had been climbed from the West Rongbuk glacier by J. de V. Hazard with Indian surveyors in 1924, but no descent had been made on the Nepalese side. It was therefore not yet a true pass. We hoped to make it one, and in the course of that effort we should be able to reconnoitre the east flank of Cho Oyu.

The glacier leading to our camp-site of the 11th was a highway, only lightly crevassed. So, leaving Bourdillon to bring up the laden Sherpas, Riddiford, Ward and I climbed the pass and tried to find to-morrow's route of descent. We judged the pass to be about 20,000 ft. Our map was so inaccurate that we could recognise nothing on the far side. The valley below and its many tributary glaciers, the very mountain ranges from which these plunged, were not marked on the

map, which showed instead a quite different valley and ridge system ; apparently a figment of the map-maker's imagination. If there have to be maps at all, more maps of this kind would add to the joys of travel.

Before us spread a vast mountain scene. Directly beneath, a broad, stone-covered glacier flowed in a westward curve to join a still greater glacier five miles away and flowing north to south. At first we thought that this must be the Chola Khola, but soon realised that it was too far away. The true Chola Khola had vanished without trace.

The descent was 1,200 ft., the angle steep and the rocks snow-covered. We had difficulty in selecting a route, but finally chose a long rib on which 300 ft. of cutting had to be done in hard frozen snow. The rib then became bare rock, easy but painfully loose. We prepared a staircase for the Sherpas in the upper snow-slopes and returned to camp. The tents were pitched on the bare ice of the upper basin. Although the Sherpas had newly arrived with 70 lb. loads, they were now playing leap-frog on the ice and chanting songs.

The cold grew intense at sundown. I had to write my diary quickly before the ink froze in my pen. This was one of our coldest camps, yet the temperatures inside the tents were no worse than -10° Centigrade. It is a curious fact that at no time this autumn, not even in November, did we experience cold as great as I met in eastern Garhwal at similar and even lower heights in May and June of 1950. Is autumn weather less cold in the Everest region than in other parts of the Himalaya ? Or did we chance on a freak season when the weather was milder than normal ? The latter seems more likely, but no sure answer can yet be given.

The morning was sunny and the loads were carried 800 ft. up the steep and stony pass in relays. We had feared great delays in roping the Sherpas down the icy snow-rib on the far side, but even with very heavy loads they quickly showed themselves competent climbers. I remember that day's journey, and the next, without much pleasure, for the sahibs had to carry loads too, and my own was 49 lb. One had to breathe deeply and rhythmically to avoid exhaustion. This was a hard day for the Sherpas, who had to make double journeys on both sides. Yet they came down that evil rock-face in the late evening singing. The song echoed across the glacier and round the walls of splintered rock.

That night we again camped on bare ice. We did not know where our glacier led, but next morning struggled over its deeply furrowed face to the northern moraine, down which we sped westwards to the false 'Chola Khola.' A continuous stream of grey cloud was pouring up it, filling the valley from side to side. We could see nothing. We camped at the confluence of the glaciers.

The mist cleared in the night. The morning brought blinding sun. To our astonishment we found ourselves close under the shining, ice-clad flank of what was obviously one of the great mountains of the Himalaya. It could be none other than Cho Oyu's East face. And so it proved. We had arrived in the Ngojumba glacier—the main source

of the Dudh Kosi. The missing Chola Khola must take its source not from the Tibetan frontier, but from the uncharted range that walls the south side of the glacier which we had yesterday descended.

We had thus no chance in the time remaining to us, and with the food available, of reaching Pumori, but we could climb the Nup La and reconnoitre Cho Oyu. If Cho Oyu were to be attempted in springtime, a route from the north, south or west must be exposed to the north-west wind and an East face route would be highly desirable. But, although we subsequently travelled the full length of Cho Oyu's ten-mile-long wall, not one chink could we find in its icy armour.

There remained the Nup La. The 14th was an off-day to rest the Sherpas. Ward and Bourdillon went north up the Ngojumba to find the Nup La at its head. Their report surprised us. It was protected, they said, by a formidable icefall. We planned to take tents and three days' food up to this icefall next morning, spend the afternoon exploring its lower part, and then mount a full attack for the second day.

The scale had deceived us. The whole of October 15 was spent in reaching the foot of the fall. It rose abruptly. Its left-hand half was a tottering mass of séracs and cliffs, every ledge between being piled with débris. We had never seen such a ruin in ice. The right-hand half was only slightly less steep. We know of nothing like it in the Alps. The centre line up the Géant icefall is an afternoon's stroll in comparison, and the Everest icefall likewise.

We chose a safe start on the right-hand half and began moving up in crampons at 9 A.M. on the 16th. Riddiford led and Pasang and Danu accompanied us. There followed one of the best ice-climbs we have ever enjoyed. The ice was dry and we made good progress for a few hundred feet. Then we came in among the séracs, which were big and broad, and grew as thick as trees in a forest. Between them the great crevasses were bridged with ice often enough to let us through. But from the heart of the forest we could not see even outwards, far less ahead. So that route-selection appeared always a chancy affair; never did we have the certainty of getting round the next sérac. We traversed this way and that, sometimes on knife-edges between the plunging walls, sometimes on a chaos of ice-blocks choking a wide crevasse. Icicles hung in curtains from the séracs overhead, and flashed in the sunshine. Caves in the walls loomed green, and chasms beneath our feet yawned blue. Constantly to our ears came the crack and tinkle of ice-fragments dropping into invisible depths.

At 1 o'clock we were close to the top of the fall and came under the last ice-cliff. It was split by a vertical chimney of 40 ft. Pasang led up. Above, we balanced along another thin edge and so came to level ground. We now discovered that far in front was still another icefall, as big as the first (which was 1,200 ft.) but less steep. Beyond that again a long slope led to the col. We were thus less than half-way up to the pass. The rest would undoubtedly go but time forbade.

At 2 P.M. we lunched and withdrew. Our conclusion was that to reach the Nup La from its base we should need three days. The date was October 16 and duty demanded our immediate return to join Shipton on the Khombu glacier.

In our tents during the night we could hear water burbling through the ice some way beneath us. It is strange that October frosts are not harder. Two avalanches fell down the icefall. In the morning we packed up and started down.

Before we left the Ngojumba, Riddiford, Ward and Bourdillon climbed two passes on the south side of the tributary glacier that we had descended a few days before, and succeeded from there in establishing the correct position and limits of the Chola Khola. After that we retired down the Dudh Kosi to Namche Bazar. The lower mountain slopes had by now taken their full autumn hues of bright red and gold—red from the blood-coloured leaf and berry of dwarf thorn: gold of the dying grasses. Ram chikors ran across the slopes, grey birds white in the chest, plump but of long neck, which they stretch like geese on taking to flight. On the 25th we re-joined Shipton and Hillary on the Khombu glacier, and there we exchanged tales.

When they had set off nearly three weeks ago, Shipton and Hillary had planned to enter the Imja basin under the Lhotse-Nuptse wall, in hope of finding a pass at its eastern head into the northern head of the Barun glacier; thence over the watershed of the main range by a probable pass near Pethangtse. On arriving in the Imja basin, where a surprisingly small volume of ice flowed from such a great mountain cirque, they saw no pass over its east wall. Perforce they turned south and succeeded in making a pass of 20,000 ft. into the head of the Hongu glacier. The pass was difficult and much time had to be spent hauling loads up the harder pitches. For this reason they carried only a light camp and three days' food.

From the Hongu they broke east to the Barun by a pass of 20,300 ft. But they were now too far south. The watershed above the Kangshung glacier was twelve miles distant and they could no longer hope to reach it with such small resources.

Accordingly, on October 16 they turned back westwards and made a third pass from the Hongu basin over the South ridge of Ama Dablam. The ascent went easily, but the westward descent involved a laborious passage down 400 ft. of fluted ice, followed by an icefall. Long after dark they pitched camp in a valley, which next day led them down to the Imja Khola. They returned to Everest by the upper reaches of the Imja Khola, from which they crossed a pass in the South-west ridge of Nuptse, and so came down on to the Khombu glacier.

A benediction of good weather had accompanied all their labours, as it had ours, the western party's. Every afternoon cloud drifted up the valleys, and each evening dissolved. In mid-October, when the moon was full, the white spears of an unnamed host invaded the night skies, and encircled our many camps.

The Ascent of the Icefall

Shipton and Hillary had arrived back at Everest five days before us. They had gone straight to the icefall and re-established camp at its foot on October 20 and 21. Next day, with Angtharkay and Utsering, they stamped a safe track up the first thousand feet of the fall. On the 23rd they went up again to complete the route to the top, but just beyond the previous day's limit they found that a very great change had overtaken the glacier. It looked as though an atom bomb had dropped on it. Over a wide area the séracs had collapsed in shattered ruins and the very surface structure of the glacier was threatening further collapse into a deepening and opening abyss.

On a hundred feet of rope, Hillary made an effort to cut a way through the tumbled blocks. One of the blocks fell with a long roar into the underlying chasm, and the area on which they stood trembled as though in an earthquake. The Sherpas threw themselves to the ground in terror. That the two sahibs remained standing, said Shipton afterwards, was due only to their having been brought up in the European convention.

They could see that beyond the devastated area countless new cracks had opened on the ice-cliffs and séracs as though an even worse cataclysm threatened. They withdrew and tried farther to the right, but here found a second and even wider shattered area. They returned to camp.

We heard Shipton's tale without any overwhelming dismay. All this had happened two days ago. If we gave it another few days, perhaps the glacier would have changed in our favour. Such optimism seems hardly accountable, and yet was to prove in some measure justified. On October 28, all six of us, accompanied by Angtharkay, Pasang and Nima, climbed the icefall. Just before the sun struck us we reached the danger area.

A small change had occurred, and it was in our favour. The central, collapsed part of the glacier had sunk between six and thirty feet more. The ice-blocks bridging the enormous chasm (the word 'crevasse' would misrepresent its indefinite character) had become more safely wedged. The upper glacier overhung this area. If the upper glacier were to move again, the blocks would presumably become wedged still more firmly. But if the lower glacier moved first—disaster. It may be that I am wrong in thinking that the icefall moves thus in uncoordinated jerks, but such was the impression it gave me.

Meantime, there was no doubt that with careful rope-work the shattered area could be safely crossed. And cross we did without incident. A level stretch followed, but the ice was shot through with innumerable cracks. An ice-axe thrust hard down was only too apt to encounter space. Otherwise all went well. None the less, it was already clear to us that the icefall in its present state could not be used as a packing route to supply high camps.

Very soon conditions improved. We zig-zagged back and forth

among the cliffs and séracs, steadily gaining height, until at noon we came under the last big ice-wall, where Riddiford had been avalanched. He and Ward and Pasang attacked it direct by the old route, but as they neared the upper section it became evident that although the snow there was sounder than before, it was still not trustworthy.

Bourdillon and Nima had meanwhile started on a route to the right, using the near side of the crevasse where its edge flicked up steeply to a high bridge. Since this edge was in fact a massive ice-cornice projecting over the depths, a better way should if possible be found. Shipton, Hillary and I therefore tried leftwards without avail. In the end we had to choose Bourdillon's route or turn back. He had now spent an hour on his edge, clearing sugary snow and excavating a staircase in the solid layers beneath. At last he was up. The rest of us followed. When two men were half-way up the whole structure gave a loud report, as if it were about to crack off. However it held. We were up. The glacier flattened out. The icefall was climbed.

And yet, we marched but a short way beyond the top to be confronted by the biggest crevasse that we had ever seen. At the widest point I judged it to be nearly a hundred yards wide, at the narrowest 100 ft. It split the glacier almost from side to side. There was no possible way of turning it on the right. On the left, a tempting snow-corridor lay shining in the sun. From this we were at present cut off by impassable crevasses, but the corridor could certainly have been reached from a point much lower down. Unfortunately, it was the corridor made by avalanches falling off the West ridge.

We were thus defeated. Despite the bad state of the icefall I think that we should have been able to carry up one light camp. A brief exploratory journey into the upper basin would have yielded most valuable information about camp-sites and the chance of access to the South Col slopes, and so helped a second expedition. But any idea of putting a tent on top of the icefall had now to be discarded. We had no means of coping with the great crevasse. It was 100 ft. deep. We could have roped into it and crossed the chaos of ice-blocks on the floor, but the farther wall was vertical and unbreached.

We returned to camp. A new question confronted us. Would an expedition next year be justified? We had found the icefall in such parlous condition that it could not possibly have been used to supply camps below or above the South Col. On the other hand, icefalls in late autumn are notoriously at their worst. It seemed reasonable to suppose that after a winter's snowfall had consolidated on the glacier a good packing route would open up. Further movement of the glacier might change in our favour the uncompromising shape of the great crevasse that stopped us.

The vast size of this crevasse is due to its position. It is sited where the icefall pulls away from the almost level glacier above. Being thus a result of difference in rates of flow it will be a permanent feature. But there are bound to be considerable changes in detail as it goes over the lip and the new one opens behind. Fifty feet of drift snow in the

bottom would make the farther wall climbable. There seems no good reason to believe that since it was impossible this year, so it will be next.

Thus a second expedition seemed to us all to be justified. From the West basin to the summit there is every sign of a practicable route. But what would be the better season? We saw the South Col slopes at too long a range to be sure of the snow-conditions there, but the icefall on the face of Lhotse was not heavily covered. In spring these slopes will probably bear more snow, and since they are above 23,000 ft. such snow is likely to remain powdery. To me, autumn seems a better time to climb them, and also to attempt the summit. We saw no storms. Down at our own level the air was still and calm, although the north-west wind had lately been re-establishing itself. The rock walls under the summit were again growing bare and black. We could often see drift snow blowing around the summit ridges, but hardly with springtime violence. Often the familiar plume was there—but only a little plume—never the vast and appalling ostrich-feather of May. In spring one may expect no more than one or two calm days in a month near the summit. Last autumn such days of calm were more frequent.

None the less, the lower icefall had been proved too open and unstable in autumn. We felt obliged in future to favour April and May when crevasses should be safely bridged by the winter snow-fall and so likely to afford a good packing route. The point is decisive, because the icefall as we found it was not a practicable route. But for that, my own preference would be for the autumn, although on this score I think that Shipton may be found to disagree with me.

Before leaving our icefall camp, Ward and Bourdillon reconnoitred the right-hand side of the icefall from a ridge near the Lho La. Shipton and Hillary went to the icefall itself. Neither party could detect an alternative route. On October 30 we packed up and next day arrived back at Namche Bazar.

The Gauri Sankar Range

Work by day and revelry by night filled the first three days of November. The headman at Namche and Angtharkay at Khumjung both had us to dinner; on each occasion *rakshi* and *chang* flowed freely, songs were sung, and we adjourned to a dance. The dance is the principal social function of Sola Khumbu. Every village has one nightly. Light is supplied by pine-chips blazing on a metal tray on a stand. A dozen dancers link arms, men and women indiscriminately, and perform a shuffle-step not unlike a *pas de bas*; at the same time they chant a never-ending song. There are no drummers. The time is given out from a many-stringed guitar, which is plucked. On the floor stand great tubs of *chang* to which the dancers help themselves as they feel the need.

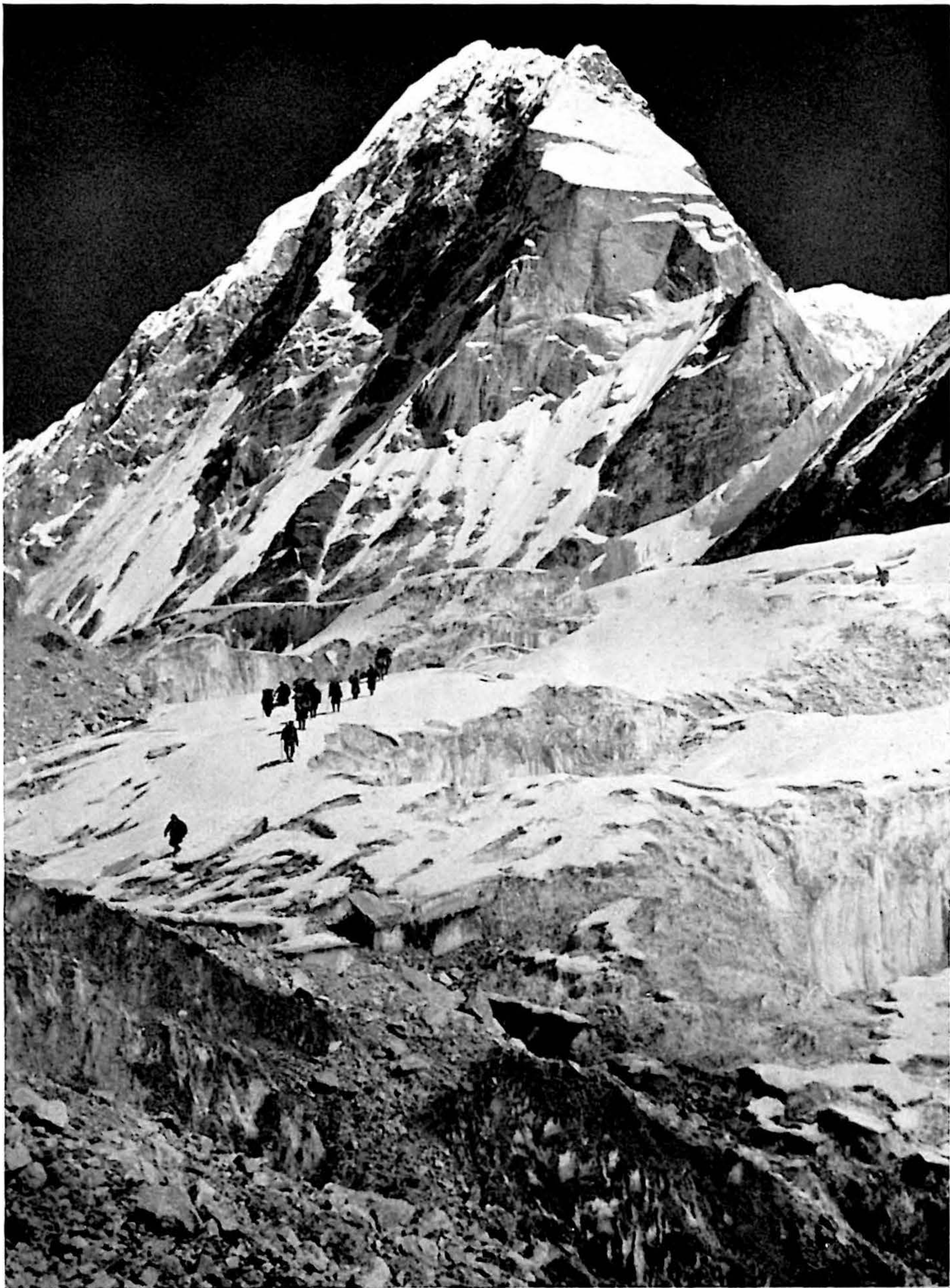
We had still important exploratory work to do westwards. Between the Bhote Kosi of Sola Khumbu (which takes its source near the

Nangpa La) and the Rongshar Chu, there stretched twenty-five miles of unexplored mountain country, which, for the sake of brevity, we might call the Gauri Sankar range. Shipton and Ward proposed to break into this territory by making a pass westward from the middle part of the Bhote Kosi valley. Hillary and Riddiford proposed to cross the Tesi Lapcha pass from the south extremity of the Bhote Kosi, and so drop down to the Rolwaling gorge under the south wall of the range. Bourdillon and I resolved to travel up the Bhote Kosi to the Nangpa La, reconnoitre the North-west face of Cho Oyu, and then follow in the trail of Shipton and Ward. Light travel was essential. The bulk of our baggage was therefore sent back to Katmandu in charge of a Nepali lieutenant, who took the normal, southerly route by the Dudh Kosi to Jubing and Charikot.

We left Namche on November 4. At the confluence of the Thami Khola and Bhote Kosi we bade farewell to the New Zealand party, who were now honoured by the company of Mr. Dutt. They travelled nine miles west to the Tesi Lapcha, found it higher and harder than they had expected, and through a failure to hit off the best route spent two days crossing the pass. They had much rope and axe work on icefalls. Beyond, down in the grand canyon of the Rolwaling, they found a Sherpa monastery where the party's safe arrival was celebrated.

The rest of us continued northward to the grazing grounds of Chhule, where the Pangbuk valley branched north-west. Here the party split again. Leaving Bourdillon and me with two tents, three Sherpas and four days' food, Shipton and Ward went up the Pangbuk in search of a pass. Their first move was to climb a peak of 18,600 ft., from which they saw the difficult barrier range to the west. Only one high col offered hope of a crossing; this they reconnoitred. An easy glacier led to its foot, above which rose 1,500 ft. of loose rock. Early in the afternoon they reached a broad snow-plateau on top. Due west across a deep, glaciated valley sprang the highest and most noble peak of the range—a pyramid of milk-white granite which they identified as Point 23,560 ft. At a later date they named it Menlungtse and the pass Menlung La. They could see that a snow-covered glacier dropped to the valley below, which ran south-west, but were at a loss to know where the latter found exit. They returned to camp.

On November 8, leaving Angtharkay and a half-dozen Sherpas to wait for Bourdillon and me, Shipton and Ward set off for the pass with Sen Tensingh and seven days' food. That same afternoon they reached the main glacier on the far side at 18,000 ft. Half an hour later they came on the tracks of the Abominable Snowman. Sen Tensingh recognised them at once. They were *yetis'* tracks. At least two of them had left spoor. Shipton and Ward followed the tracks for more than a mile down the glacier, finally losing them on the lateral moraine. Some of the prints were particularly clear. Pad marks could be seen within the footprints, which were twelve inches long, and where the creature had jumped the smaller crevasses the scabble-marks of its toes could be seen on the far side.



SHERPAS BELOW AN UNNAMED PEAK ON THE NEPAL FRONTIER.

[To face p. 448.]

That night the party camped on ice, but next day came on to an old moraine having enough pasture in its ablation valley to nourish wild sheep and goats, and presumably *yetis* too. The glacier ended. The valley turned west widening into flats. On their right-hand was Menlungtse, on their left, but some miles ahead, stood a great mountain which they identified next morning as Gauri Sankar. Below its north-east wall the flats narrowed again to a gorge and plunged to a still deeper valley-system. The riddle was solved. The more distant valley must be the Rongshar, and that in which they stood the Menlung Chu.

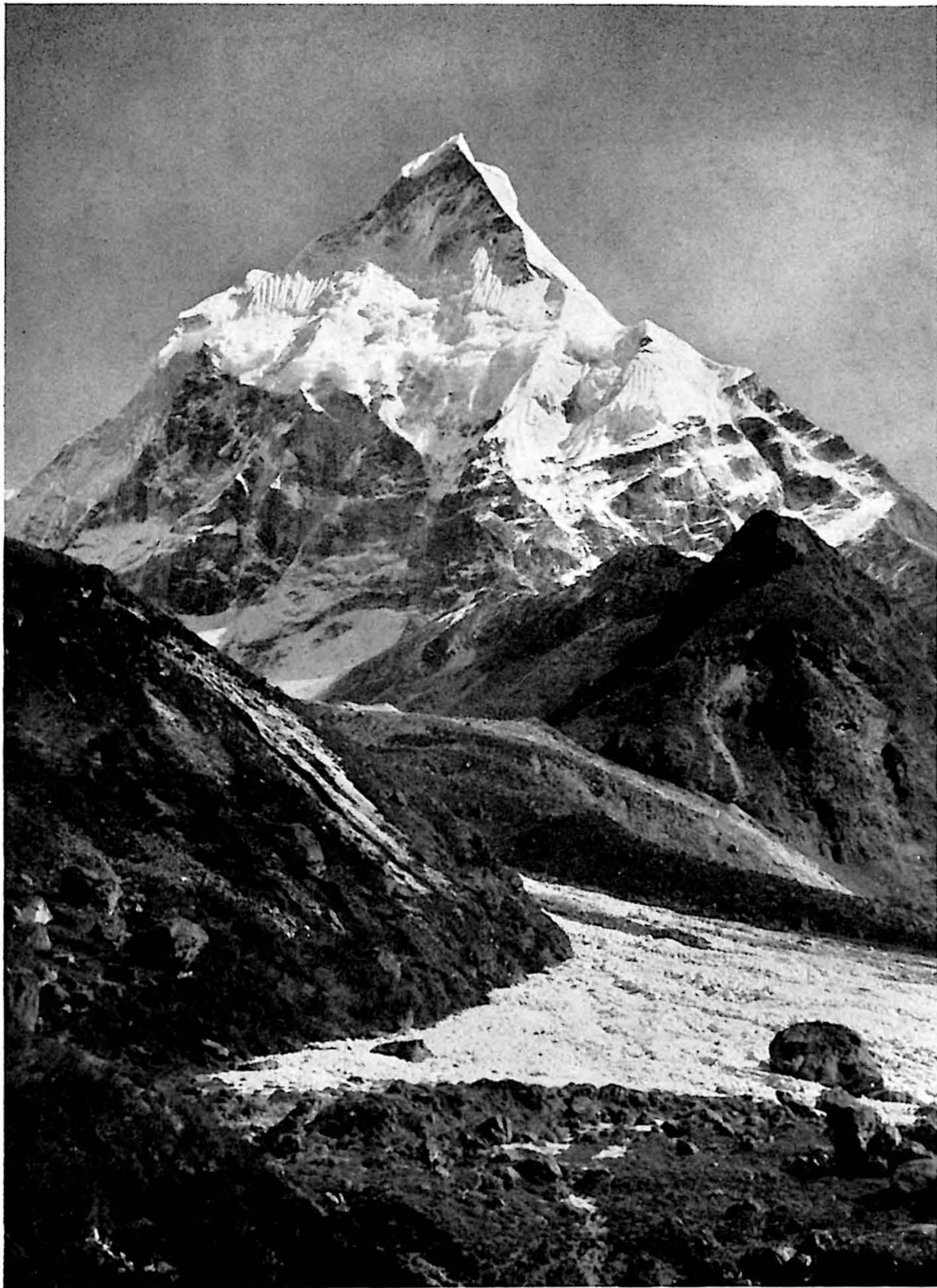
On November 11 they climbed on to the south rim of the Menlung Chu. They used a snow-covered glacier to reach a col at 19,500 ft., from which they found themselves looking down a 7,000 ft. wall to the pinewoods of the Rolwaling Khola. Although they were unable to see the lower 3,000 ft., it was their opinion that a way down could be found. They returned to the Menlung Chu. This side glacier is just a little way above the snout of the main glacier, and their camp stood on the flats below.

The Nangpa La and Cho Oyu

Bourdillon and I left Chhule on November 6. Within a mile we passed the snout of the glacier and took to the old moraines of its left bank. At last we could see the distant Nangpa La (we thought), where steep scree-slopes at the glacier's head rose to a col exactly as marked on the map. Suddenly our track swung right (north) into what turned out to be the true continuation of the main glacier, which falls from the Nangpa La. The map wrongly marks the Nangpa La at the head of the westerly branch, and does not mark in the very much greater eastern branch. In brief, the map-maker had not gone up to the Nangpa La, which is the principal trade-route between Tibet and Sola Khumbu. At last the moraines petered out. We had travelled nine miles in nine hours when we dropped on to the glacier and pitched camp in a stony hollow.

In the morning Bourdillon and I and Ang Puta followed a track of yak-dung through the mass of stone covering the glacier. After a mile of hard work we came on to ice, in which the yaks had trodden a deep channel. No snow had fallen for a very long time. Daily sun and nightly frost had transformed the surface into clear ice. For this same reason the ridges and faces of all the great peaks, which sprang up on both sides of the glacier, were sheeted in snow-ice. Without crampons, it was manifestly impossible to make the ascent of a single peak in the whole area. None displayed bare rock-ridges.

In four hours we covered two miles and arrived on the pass, a wide and spacious snowfield, full of sun and the stir of air. It was set about with splendid snow-peaks, many of which looked climbable—in crampons. Far off to the north lay the brown, warm hills of Tibet, roofed in shining blue. At the centre of the pass, a thick mass of tattered



MT. MENLUNGTSE. POINT 23560 FROM W.

prayer-flags hung from a short pole. We sat by it and sunned ourselves. The snowfield stretched before us half a mile into Tibet at a gentle angle; then the Kyetrak glacier, stone-covered, continued still at a mild angle and curved eastwards out of sight towards Kyetrak, ten miles distant. The village, said Ang Puta, was occupied only by Sherpas, who used it as a salt depot for the trade with Nepal.

We could as yet see no sign of Cho Oyu. But a big tributary glacier flowed on to the Kyetrak glacier from a re-entrant a quarter of a mile away on the right. At the head of this re-entrant must lie Cho Oyu. Therefore we walked on until we could see up this side glacier. And there was Cho Oyu. It presented to us its North-west face and a long North ridge. At one glance we could see that two good routes were offered.

First, the North ridge: it swept down at a moderate angle to a low col, which could be reached from the glacier's head without apparent difficulty. High up, the ridge hunched itself into a steep shoulder, but this looked as if it could be turned on the west side and the upper ridge regained.

Second, the North-west face: this fell towards us in an eminently climbable icefall, which bore no trace of soft snow. It could be approached from the glacier by a long rocky hill. This icefall appeared to us to be a better route than the North ridge because it was so much broader and provided numerous camp-sites on its steps. It ended below the shoulder of the North ridge, which could then be reached by a rib.

This North-west face was the most promising route I had ever seen on any big Himalayan peak. It was inviting. It was safe. The snow was in perfect condition. There was no wind. All that we lacked was food, equipment, and Sherpas; otherwise nothing (we felt) could have stopped us. We went away feeling almost frustrated. Hidden from our eyes, on the lower part of the face, were great ice-cliffs; these were only to be discovered in the following spring by another expedition, which was in consequence defeated.

These routes, excellent as they seem, will in springtime be exposed to the full blast of the north-west wind. In short, autumn is the time for Cho Oyu.

A caravan of yaks and Sherpas passed us on the Nangpa La, south-bound for Nepal. The maps mark the pass 'Open May to August,' and the Tesi Lapcha 'Open July and August.' In fact they can be used freely in the autumn. The Nangpa La is apparently crossed at all seasons, although not without loss of life in blizzards. We noticed that some of the Sherpa herdsmen carried short ice-axes, like slaters' hammers, with which they cut hoof-holds for the yaks in steep or icy parts of the glacier. Have Sherpas been cutting steps here, and yaks using them, before the founding of the Alpine Club?

We now beat a retreat. On November 9, after an anxious search high in the Pangbuk valley, we discovered Angtharkay and company stowed snugly in a cave. On the 10th we crossed the Menlung La. Like Shipton and Ward we discovered the tracks of the *yeti*, and like them

followed the tracks for the better part of two miles until (on our second day) we too had to take to the moraine. At our first camp in the Menlung Chu we had only two small Meade tents for nine Sherpas—but they all packed in. The cold at nights was noticeably growing. On the following evening we discovered Shipton and Ward. We heard the news of their excellent exploratory work, and had then to decide whether we should head for the Rongshar or the Rolwaling Khola. The issue stayed unresolved until the morning of the 12th, when we chose the Rongshar. It was one of the great gorges of the Himalaya and not to be missed.

Among the gravel flats below camp we saw the spoor of wolves. We passed close under Gauri Sankar. The valley narrowed, swung northward, richly coloured now in autumn vegetation, then plunged. Through pines and rhododendrons we dropped to the Rongshar. We turned south.

Dense-growing rose-bushes flanked the valley for several miles : the sight and scent must in summer be unique, and altogether enchanting. The moon was full so we pressed on and on. At last we entered the true gorge. Its sheer walls towered 4,000 ft. above the pine-tops by the track, and on we went until the moon set. We bivouacked at 10,000 ft. Three days later we were down among the cicadas and lizards. Already the high Himalaya seemed utterly remote, and our many journeys approaching their end. On November 21 we entered Katmandu.

Merits and Demerits of the Western Route

Despite our disappointment in not reaching the slopes of the South Col, our reconnaissance had been successful in that we had found answers to all the questions we had set out to answer, and that these answers were for the most part favourable beyond expectation. The western route may yet prove to be a better one than the old north route, over which it offers these six advantages, some of which are still to be proven true :—

First, the main difficulties occur low down, whereas on the north route they start at 28,000 ft., where the climber commands less energy.

Second, on the last 3,000 ft. of the South-east ridge the strata dip northward, in favour of the climber, and so should give better support for the snow and more tent platforms.

Third, the route is protected from violent wind until close to the South Col (c. 25,800 ft.).

Fourth, the South-east ridge is broad and should give a wider choice of route than the northern line.

Fifth, on the north side the snow above 25,000 ft. refuses to consolidate, and by remaining powdery makes climbing impossible until it is cleared by the north-west wind ; whereas the fact that snow lies always on the South-east ridge, despite wind, would imply that there it does consolidate and *may* give satisfactory climbing.

Sixth, the slopes above the South Col are in sunshine from dawn, thus allowing climbers to make an earlier start than from camps on the northerly side (where the old Camp VI was in shadow until 9 A.M.).

The disadvantages are (at the time of writing) less numerous.

First, at the narrows of the West basin there appears a threat of avalanche from the flanking walls not present on the East Rongbuk glacier. The threat, however, had less substance to it last autumn than we had feared. The threat might greatly increase if a party were so unwise as to remain in the upper basin at the break of the monsoon.

Second, the traverse from the face of Lhotse to the South Col, although tactically good (granted good snow) is strategically bad. If the weather deteriorates while men are above the South Col their safe return is unduly compromised. It may be that the col can be climbed direct from below, but that line looked unpromising from six miles' range on Pumori.

Third, an aerial photograph of the summit shows that the South-east ridge may become unpleasantly like a knife-edge along its last 300 ft. Prayers for freedom from wind near the top will have to be redoubled.

As always hitherto, so in future, no expedition, however strong and energetic, can hope to achieve the summit unless it be aided by three major strokes of good fortune, *which must all concur*: freedom from high wind near the top; no deep powder on the slopes below or above the South Col; and the right man high at the right time. Good fortune of that very special kind has graced none of the previous expeditions.

Defeat, however, is not failure so long as the will to try again persists.