Volume XIX *1955-56*

THE HIMALAYAN JOURNAL

RECORDS OF THE HIMALAYAN CLUB

Edited by H. W. TOBIN
Assisted by V. S. RISOE

CONTENTS

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By courtesy of The Sphere

Gosainthan, 26,291 feet, from the south-west. Drawing by V. Coverley-Price

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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.'

VOLUME XIX
1955-56

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EDITORIAL

THE fact that this issue is so late in appearing is not entirely due to the slackness of the Editor. The chief cause has been the glut of expeditions, mostly successful, to the Himalaya, Karakoram and Hindu Kush. It was essential to present the stories before they became stale news and certain contributors were perforce delayed.

The decision that we should print the Journal in India has also meant certain unavoidable delays owing to the Editor having to correspond with the printers several thousand miles away. These delays have been reduced to a minimum by the willing and efficient co-operation of Mr. Norman Ellis, of the Baptist Mission Press, our new printers in Calcutta. Valuable assistance has also been rendered by our Honorary Secretary, Mr. T. H. Braham. In spite of the changed arrangements for printing the Journal, the Oxford University Press remain as our Publishers and we consider ourselves fortunate in preserving through their Calcutta branch our long and happy association with them. It has inevitably taken a little time for the new arrangements to get into their stride, but it is hoped that Volume XX will be out in good time. Because of the delay in bringing out this issue, it is being styled Volume XIX—1955-56.

We would like to record our thanks to all those organizations who have reciprocated, particularly the Alpine Club. If we have anywhere omitted to acknowledge where we should, we humbly apologize for the omission.

THREE MONTHS IN UPPER GARHWAL AND ADJACENT TIBET

GURDIAL SINGH

THIS article is an account of two journeys made in 1951 and 1954 in the Garhwal Himalaya and on the latter occasion in adjacent Tibet as well. In 1951 I was accompanied by R. Greenwood and three Sherpas: Gyalgen Myckje, Dawa Thondup, and Lhakpa Tsering. On the second occasion Lav Kumar and I joined forces. I had not met him previously, but had been told that his love for mountains was matched only by his interest in birds. We employed a few Garhwalis of the Dhauli Ganga valley as porters, of whom Kalyan Singh and Diwan Singh [1] served us loyally.

Both times the policy was to travel light and to get off the beaten track with a view to attempting secondary peaks where possible. Tibet was, of course, a forbidden land for climbing, so we did such climbs as our fancy suggested in the by-corners of Garhwal.

When Greenwood and I parted company at the Trisul Base Camp [2] on 25th June 1951, it was arranged that we would reassemble on 5th July at Lata, the last village on the conventional route to the Rishi basin, to carry out the second part of our programme, i.e. travel in the middle Dhauli valley and one of its tributaries, the Kosa. Meanwhile he would attempt Mrigthuni, 22,490 feet, lying between Trisul and Maiktoli, and I, in company with Gyalgen, would make a quick trip to Badrinath to 'acquire merit'. Accordingly I returned to Lata on the afternoon of 4th July. Here a spirit of merriment prevailed: the harvest festival was in full swing. The wheat harvest which had just been gathered was threshed during the day and at night the male population indulged in an orgy of dancing to the accompaniment of the drums in the local dharam sala; women and children were passive spectators of the nightly scene. Next day Greenwood and Robert Walter [3] came leaping down from the heights. We exchanged news. Greenwood's gallant bid for Mrigthuni had failed when within 500 feet of the summit, because Lhakpa was unable to continue owing to cold feet. He met Robert in the Trisul nala and together they followed almost in

[1] Both Kalyan Singh and Diwan Singh, of villages Bampa and Rini respectively, had distinguished themselves in the Bengal Sappers' Expeditions to Kamet; the former was one of the three who reached the highest point in 1952, and the latter, a year later, was included in the first assault on Abi Gamin.

[2] *Himalayan Journal*, vol. xvii (1952), pp. 112–14.

[3] Robert Walter and Sherpa Nima Tensing climbed Trisul on 24th June, 1951.

Dr. Longstaff's footsteps of 1907 to return to the Dhauli valley. Despite the accursed flies which Lata seemed to draw like a magnet, it was a happy reunion that day.

SKETCH MAP

Showing the author's route
in Upper Garhwal

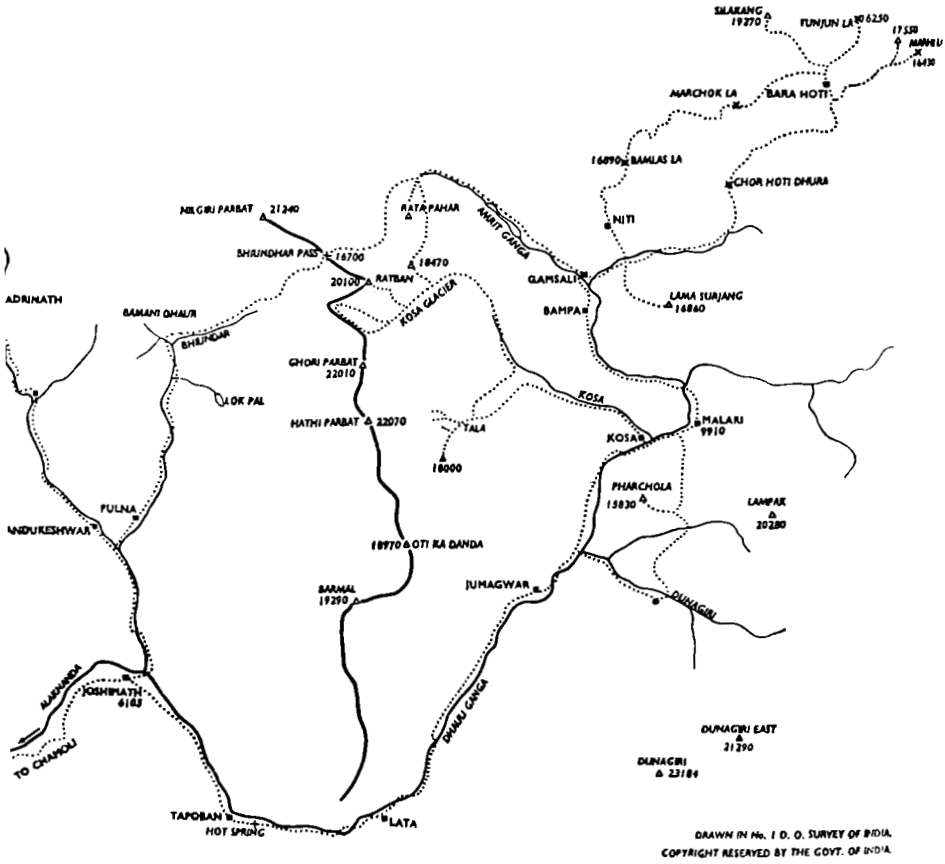
Scale 1 Inch to 4 Miles

Miles 5 4 3 2 1 0 5 Miles

Based upon Survey of India maps with permission of the Surveyor General of India.

Reference

Route taken in 1951 and 1954... .. ..



Our way from Lata now led up the valley of the Dhauli river—a roaring torrent which was turgid with glacial silt. The sun blazed down from a caerulean sky as we followed the major trade-route linking Garhwal with Tibet. Not many caravans of Bhotias passed us, for the northward migration to their summer homes had virtually subsided a little over a week ago. The gorge of the Dhauli looked drab, unlike the well-timbered Rishi valley; but the presence of the redstarts (both white-capped and plumbeous), whistling-thrushes, red-billed choughs, greenfinches, and eastern grey wagtails

added a winsome note. We slept beneath the deodars at Juma, and in the morning travelled to the village of Kosa overlooking the confluence of the Kosa and the Dhauli. Here we left Dawa and Gyalgen to move the main baggage to Tala the highest meadow to which the local shepherds venture for a few weeks every summer, while Greenwood and I, with Lhakpa, moved off towards Bampa to satisfy our curiosity about the traders who live in the Bampa-Niti area

We rejoined Dawa and Gyalgen at Kosa on 10th July and on the following day, after an eight hours' march along a sheep track which was bordered, about 2,000 feet above Kosa, by silver birches and rhododendrons, and, higher up, by anemones, potentillas, primulas, violets, and a host of other plants, arrived at Tala. This idyllic spot, at 14,400 feet, was studded with small lakes and low rock gardens and lay between the hillside and the right-bank lateral moraine of the Raj glacier. In front of us, as we faced the Hathi-Ghori Parbat group of peaks, both hidden through foreshortening, were two detrius-soiled ice-falls flanked by grim precipices. The higher ice-fall, which drained the cirque enclosed by ridges running from Ghori Parbat and Durpata, discharged avalanches regularly and formed a formidable defence in the armour of the adjoining peaks. Both these ice-falls looked impossible with the resources at our command; but Dawa and Greenwood forced a passage up the middle of the lower ice-fall before dismissing it as being too dangerous for laden men Meanwhile Gyalgen and I did some exciting scrambles on the rocks to the left of the lower ice-fall and climbed an attractive gendarme, at over 18,000 feet, lying to the south-east of Peak 19,030.[1] Mist had gathered before we reached the top, but we enjoyed an occasional peep at the wild rock pinnacles which surround the Juma cirque. I did not then know that the 1939 Swiss party had also climbed the same peak and that they had circumvented the two ice-falls after a prolonged reconnaissance.

We now turned our attention towards Rataban and decided to try to reach the Bhyundar valley by finding a way over the Kosa-Bhyundar divide. So after two marches—all of us were now heavily laden—we placed a camp at 15,500 feet on the left-bank moraine of the Kosa (Kunar) glacier. Nearby the hill slope was ablaze with *Primula reptans*, and many a lake reflected the narrow ridge which runs first north and then north-west from Ghori Parbat. On this ridge a splendid peak of about 21,000 feet, with its east face seamed by ice-flutings, evoked our admiration.

Greenwood, Dawa, and I set off at 7 a.m. on 16th July to attain

[1] *Himalayan Journal*, vol. xii (1940), p. 40.

the col at the head of the Kosa glacier. We descended to the glacier and traversed to our left to tackle a climbable but sinister-looking ice-fall. The sun shone pitilessly as we circumvented yawning crevasses and cut steps alongside them. Less than four hours after leaving camp we stood at the foot of the gentle snow slopes leading to the col, which we reached shortly after midday. Whatever hope we might have entertained of being pioneers here were soon dispelled when, on the rocks overlooking the col, we sighted a cairn; either the Swiss or some survey party must have erected it. A thick swirling mist enveloped the middle Bhyundar valley, while our basin was strikingly sunny save for a few wisps of fracto-cumulus clouds. Access to the Bhyundar valley, although not impossible, was not as easy as we should have liked; nor was Rataban a feasible proposition from the west. So while gazing north-eastward at the Bhyundar pass through a parting in the mist we decided that across this pass lay the nearest line of approach to the Bhyundar valley.

Next day Govind Singh, a Kosa porter whom we had sent down to fetch stores, brought the distressing news that Duplat—we had met him in the Rishi basin—and another climber of the French Expedition had disappeared somewhere on Nanda Devi.

I hardly slept that night; horrid nightmares of the French tragedy kept haunting me. Consequently on the following day when Greenwood, Dawa, Lhakpa, and I set off at 5.30 a.m. to attempt Rataban my spirits were at a low ebb. After two hours of steady progress mostly on boulders and hard snow, during which we must have gained about 2,000 feet in height, we were confronted with a rather steep snow slope still in shadow. I lacked the nerve to try it, so I returned from here, leaving the others to complete the climb. At noon they reached the summit (20,100 feet), where they spent nearly twenty minutes. A fierce cold wind drove them down, and at 4 p.m., over a cup of cocoa, Greenwood was telling me how Lhakpa, whom we had hitherto considered to be the weakest link, had risen in his estimation as a potential rock and ice-ace. Their route conformed, I think, to that of Huber, who achieved the first ascent of Rataban twelve years previously.

Two days later we stood on Peak 18,470, marked on the map between Ukhi Pahar and Rataban. It offered us an exhilarating climb, though the rock was rotten; at one spot I, having strayed away from the rest, longed for the safety of a rope while groping my way upward on a rocky rib. A tent platform and two stumps of juniper on the summit revealed that we had been forestalled here, too. However, momentary views of the Kamet group of peaks and the fact that feasible snow slopes stretched northward to the Amrit

Ganga valley was adequate consolation. As we sped down some most promising ski slopes to camp beside the glacier I made a mental note to visit this area again.

I did; it was in June 1954 with the 17,220-foot high Rata Pahar as my objective. But the wintry conditions of that season dealt a blow to the attempt by the north ridge, when Kalyan Singh and I were not more than 500 feet from the top.

On 21st July we went over the Bhyundar Khal, 16,700 feet, a pass which provides the shortest link between Niti and Mana. We had not been in the new basin for many minutes when masses of *Primula moorcroftiana* began peeping at us from every direction. Lower down, between Chakulthela and Bhamini Daur, two grazing grounds marked on the survey map, I saw many old friends—marsh marigolds, Jacob's ladders, fritillaries, anemones, geraniums, lady's slippers, lloydias, poppies, and others too innumerable to mention: a scene which brought back memories of the week I spent here in late June 1949.

We camped close to the old camp-site, near Bhamini Daur, and another week passed all too quickly. We had plenty to read and our larder was full once again, thanks both to our thoughtful and energetic Sherpas, who journeyed to Joshimath and back, and to the local shepherd, Murkulia Singh, who supplied us fresh milk. One day Tensing, then Sirdar of the French Expedition, sent us a gift parcel of some choicest delicacies. If our conscience occasionally reproved us for indulging the grosser appetites, we could always console ourselves that there was little else we could do in that wet spell at any rate.

During the return journey we enjoyed the generous hospitality of the French Expedition for three days. From Chamoli to Kotdwara, the railhead, we lived together and, despite the linguistic barrier, felt that oneness which is so peculiar to climbers everywhere. And together, our manpower now nineteen strong, we helped the meagre P.W.D. gangs in clearing the landslides with our ice-axes.

In early June 1954 I took the high-road to Joshimath for the fourth year in succession; in both 1952 and 1953, when I accompanied the Indian Sappers to Kamet, the route was identical. On arrival here on 3rd June I heaved a sigh of relief at escaping from the purgatory of both the scorched plains and the parched foothills: I had reached the threshold of the real Himalaya. Lav Kumar joined me in the afternoon. He had done a day's march from Badrinath, where he, like a good Hindu, had gone on a pilgrimage after visiting Kedarnath. As we sat under an apricot tree in front of the rest-house I guessed—correctly, as my subsequent experience proved—that he

was the man to go travelling with in the hills, being not over-adventurous, but patient, amiable, and as keen as mustard. In the evening Kalyan Singh, the head of our small porter team, arrived from Bampa, according to schedule. Providence had smiled and I was no longer sceptical about the outcome of the yet-to-be-born tour.

The next few marches along the Dhauli had no thrills of the unknown for me; I knew every twist and turn of the journey. The familiar sights and sounds were nevertheless fascinating. I heard and met innumerable brown hill-warblers and black partridges and saw horse-chestnuts in full glory on the way to Tapoban. The hot spring at Tapoban, the blue pines on the route to Rini, the Buddhist shrine beside the confluence of the Dhauli and the Rishi, the chaotic scene of boulders between splendid cliffs below Lata and the broad shingly bed of the Dhauli above it, the grassy sward at Surain Thota, the pale pink trumpet-shaped flowers of some amphicome swaying in the breeze near Juma, and, above all, the long processions of Bhotias heading towards Niti—with all these I had now formed more than a passing acquaintance. The route to Dunagiri zigzagged through a gorgeous sylvan setting, and on the afternoon of 7th June we were admiring the excellent potatoes for which this village is known in all Garhwal. The lofty glen of Dunagiri, with its ring of some magnificent peaks, was one of the most delectable I had seen among these mountains. And it was rich in bird life, too, cuckoos and rubythroats being specially more abundant than usual. We ensconced ourselves in the village school and gave simple medical aid to the people who asked for it. This brought us goodwill immediately and soon, as tokens of gratitude, we had more potatoes than we needed.

Pharchola, a 15,830-foot peak situated on the ridge running west from Lampak, was the next objective. The climb was perfectly easy. The east ridge, which we reached via Kanari Khal and Kalla Khal, two entrancing passes between Dunagiri and Malari, was free of snow. On the way we disturbed the peace of three bharals and the female of a snow-cock; the latter, with her brood hardly a week old, rose almost from my feet as I clambered round a rock tower. The summit, of solid granite, was crowned with a tall pole and was a most wonderful viewpoint. Every peak from Trisul to Kamet and from Lampak to Hathi Parbat stood out majestically on that cloudless day, and Dunagiri seemed to be the monarch of them all.

On 10th June we reached Bampa village. Its school—or Gamsali's, for it was nearer Gamsali—was put at our disposal by the schoolmaster, a man neither 'severe' nor 'stern to view'. With this as our base we set off to attempt first Lama Surjang to the east and then Rata Pahar to the west.

We marched along the savage cleft of the Dhauli to Temarsan, hardly three miles distant. Here a small contingent of the Police Armed Constabulary, posted with a view to guarding India's frontier, gave us a warm welcome. We pitched our tents on the soft turf beside a limpid brook lined with *Primula involucrata*, and on the following day climbed to a green terrace on the north-west face of Lama Surjang. Close at hand were evanescent snowfields amid such surroundings in which bharals and snow-cocks always seem to revel. At 8 a.m. on 13th June we stood on the west ridge, where a blue rock-thrush greeted us, and four hours later, after negotiating the stimulating problems posed by both the rugged brown spires and the loose crumbly rock, we attained the summit of Lama Surjang, 16,860 feet. The view was execrable. Apart from fleeting glimpses of Malari village, which lay at our feet, and of Chor Hoti pass, which Kalyan Singh identified at once, and of the valley of the Chubag ghat (a tributary of the Girthi to the east), which puzzled him, though he had driven his sheep to its pastures, thick vapours reigned supreme. Next day we were back at the village school.

To the west of Gamsali is a U-shaped trough, a marvellous example of the effect of past glaciation on a mountain valley. Here nearly a week was spent in the attempt on Rata Pahar, already mentioned, and in the observation of the breeding habits of some birds.

According to an ancient custom, no Indian may cross over into Tibet until the 'Sarji', a Tibetan envoy sent by the local Dzongpun (District Officer), declares the passes open. This usually happens in the third week of June. On 22nd June, just when we were beginning to chafe at the delay, he arrived. Two days later, having regretfully left our ice-axes and rope at Bampa, our caravan, consisting of Kalyan Singh, Diwan Singh, Madho Singh, Lav Kumar, myself, and three pack-ponies set out for holy Kailas and Manasarowar, in Tibet. All our Garhwalis had been to Tibet before. Madho Singh, aged forty-two and the oldest member of the party, had carried out trading trips there every summer since his boyhood. His experience, in particular, was of inestimable value to us.

The Chor Hoti pass was crossed on a calm sunny day. Snow lay in big patches and the Himalayan griffon vultures, perched on the ridge or soaring above it, were scrutinizing the treacherous route for any victims among the hundreds of sheep and goats going towards Bampa and Bara Hoti, a camping ground in a vast moorland at which many trade-routes converge, was reached the same day. Here the P.A.C. had set up their camp a day before, to remain there till September. On 26th June, accompanied by two men of the P.A.C., we climbed Point 17,550 to the north-west of the Marhi La,

on the Indo-Tibetan border. From the sharp ridge we enjoyed a good view of the pyramid of Kamet and could see the warm brown uplands of Tibet and, across them, the snow-capped Trans-Himalayan range.

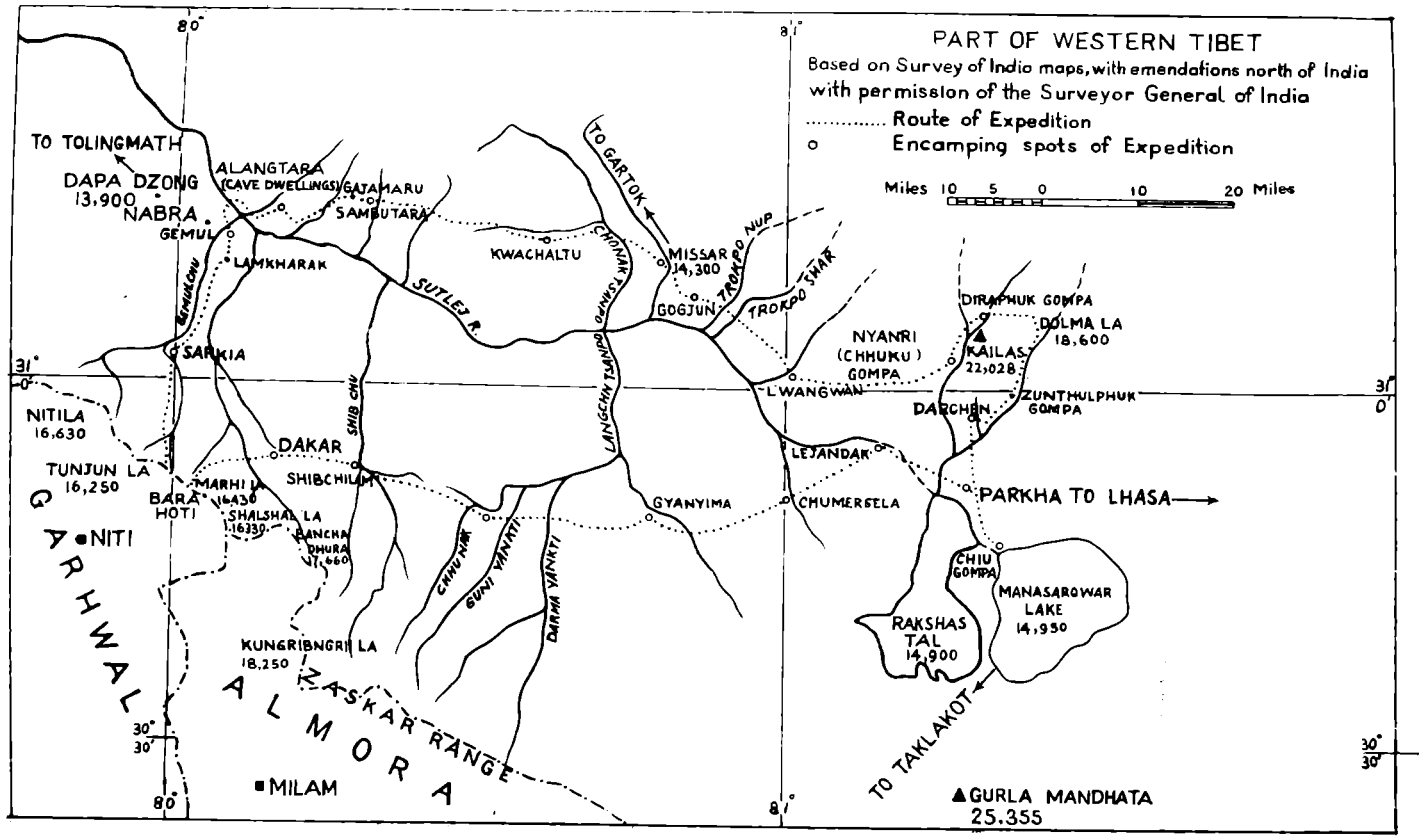
The next three weeks were spent in Tibet. How we passed that period is being set down briefly in diary form below. After our return to Bara Hoti on 16th July we ascended Silakang, 19,270 feet, and collected more fossils from the summit of the Tunjun La. The route we took to reach Silakang—first to the Silakang La (Parla), 17,820 feet, and then by the south ridge—was completely free of snow and presented no technical difficulty. The west face of the ridge was terribly steep and we heard the silvery tinkle of many a rock fragment bounding down the slope to the hungry depths below. From the camp it took us 4½ hours to reach the summit, climbing at the rate of a thousand feet an hour. While Kalyan Singh built an enormous cairn on the top I gazed at the Tibetan plateau and the last lap on Kamet, both of which had been the scenes of our combined travails and which, although so close, now seemed so distant. Perhaps I shall return to them some day.

Back at camp Madho Singh had bought a sheep from a passing caravan for fourteen rupees. The liver and kidneys and the mutton—all provided a real gastronomic treat, a glorious finale to that wonderful day.

On 18th July the Marchok La, 18,250 feet, was crossed and on the following day we went over the Bamlas La, 16,890 feet, our pack-ponies coming nearly to grief near the summit of both the passes. We had returned, intact, to the zone of rosefinches, snow-cocks, rubythroats, meadow-buntings, and, to quote Longstaff, 'to soft airs, warmth, trees and flowers'.

TIBETAN JOURNEY: EXTRACTS FROM THE DIARY

27 June. Dawned fine. After taking a few photographs and depositing the cameras and the maps (their entry into Tibet being prohibited by the Chinese Government) with the P.A.C., we left Bara Hoti at 0800. A short while later we passed by the camp of the wandering minstrels, who had regaled us at Bampa; they, too, were on their way to Kang Rimpoche (Kailas). We followed a much-used track to Nabra and Dapa Dzong. (Both these summer trading-camps are visited by the Bhotias of the Dhauli valley.) Gradual slopes led to the Tunjun La, 16,250 feet, where fossils, mostly ammonites, lay in profusion. Obviously a palaeontologist's paradise.



Conditions very wintry on the northern side of the pass; our men said they could not recollect having seen so much snow here ever before. We marched along the stream, called the Sarkia Sumna by our men. Ochre-coloured hills enclosed the valley. Arrived at Sarkia at 1515. A windy spot. We can, however, draw consolation from the fact that the main valley, about 200 feet below us, is even windier.

28 June. Left at 0815 and arrived at Gemul at 1620. Close to our Sarkia camp was the confluence of two streams: the Jindu Chu and the Sarkia Sumna, the combined river being called the Gemul Chu. Saw a party of sheep-drovers first descending to the Jindu Chu and then going up the way we had come yesterday. We ascended the odd 800 feet from our camp to attain a col which provides access to the Jotal Tankha—a broad steppe, waterless, and covered with caragana. Two packs of kiangs (wild asses) were seen browsing on this vast plain. Kamet and couched at its feet, Abi Gamin, both now almost behind us, gave us a wonderful view. In the afternoon we saw Kailas on the horizon to the east. Descended to the bed of a dry ravine and walked along it. At length, at Lamkharak, there was a small spring, which accounted for an encampment of Tibetan nomads. The afternoon milking of the ewes was in progress and large lumps of cheese made of yak milk had been put in the sun to dry. From here a dusty track was followed to the Gemul Chu—a raging torrent dark grey with silt. Because we couldn't risk our food getting wet, we camped on the right bank, although the real camp-site lay across the stream. Saw numerous Turkestan rock-pigeons and goldfinches here.

29 June. The stream had not subsided. However, Diwan Singh, a likeable rascal, tried to fathom its depth. He drove a nag into the water, held tenaciously the tail of the beast and went across, but not without trepidation, though the water reached barely up to his waist. We forded the icy cold torrent at 1015. Across the Gemul Chu, about 200 feet above it, was a 2-acre patch of cultivation (the only one we saw in Tibet) where barley had just been sown. It belonged to a 'roptuk' (landlord), called Ongdu. At 1150 we went over a col, whence we followed a dry wadi. Some distance above the valley floor the rocks were sculptured into fantastic shapes by aeolian corrosion. Passed a party of five Tibetans (two on horseback), who were driving a flock of thick-woolled sheep to Bampa to be sheared and to bring back grain, &c., in exchange. They agreed to take with them the fossils we had collected in the Tunjun La area and to leave them with the P.A.C. at Hoti. At the Sutlej bridge (the most dilapidated I have seen), which was crossed at 1345, we saw the Turkestan rock-pigeons, crag-martins, redstarts, and a wall-creeper. After

lunch we went first up the Sutlej for a short distance and then up a tributary (not waterless) to camp at Alangtara at 1615. Above us the hill-slope was honeycombed with caves, all uninhabited, with tracks leading to them: a weird scene; and quite frightening.

30 June. The goldfinches were trilling around us in numbers in the morning. Heaps of conglomerate lay in both the Alangtara and the Gemul areas. At 0930 we crossed over into a different basin and at 1400 reached an encampment of nomads at Gajamaru. Their yaks were of all shades ranging from brown to black and had beautifully curved horns. Rather pugnacious beasts: they couldn't tolerate our ponies. At 1700 when we reached a straggling runnel at Sambutara we decided to call it a day. Close at hand the desert wheatears and horned larks were disporting and at a range of 400 yards a flock of fifteen bharals (or were they *Ovis ammon hodgsoni?*) were browsing.

1 July. A very pleasant seven hours' march, first across rolling downs and then along a limpid rivulet, to Kwachaltu. The Himalaya were swathed in monsoon clouds.

2 July. Having left camp at 0845, we walked down the Chho Tal Gadhera to its confluence with the Chonak Tsangpo, a tributary of the Sutlej. On arrival here at midday a typical central Asian scene greeted us: a large Ladakhi caravan was enjoying one of its numerous rounds of tea, with its pack-animals, donkeys, scattered all over the place. Some of them were carrying dry apricots, which they would barter for wool at the foot of Kailas. We crossed a low ridge to get to Missar, an attractive camping ground which commands a good view of Kailas and which is on the main Lhasa-Gartok route. At 1630 we camped beside another Ladakhi party and, in order to lessen the possibility of being waylaid by bandits, decided to accompany them to Kailas. From here onwards for the next week the well-known Tibetan prayer 'Om mani padme hum' was often in our ears.

3 July. A short march to Gogjun. Several parties of Ladakhis, Rampur Bashahris and Tibetans were encamped here on what must be some of the most succulent grass in all Tibet.

4 July. An eleven hours' march across the steppes, gorse-covered and abounding in hares, to Lwangwan, our stage for the day. Two knee-deep streams of pellucid water, the Trokpo Nup and the Trokpo Shar, were crossed on the way. Enjoyed good views of the Himalayan peaks from Nanda Devi to Kamet and, from the camp, of Kailas which resembled Nilkanta as seen from Badrinath. Despite the long day we've had, Lav Kumar is after the Tibetan sand-grouse we spotted a short while ago.

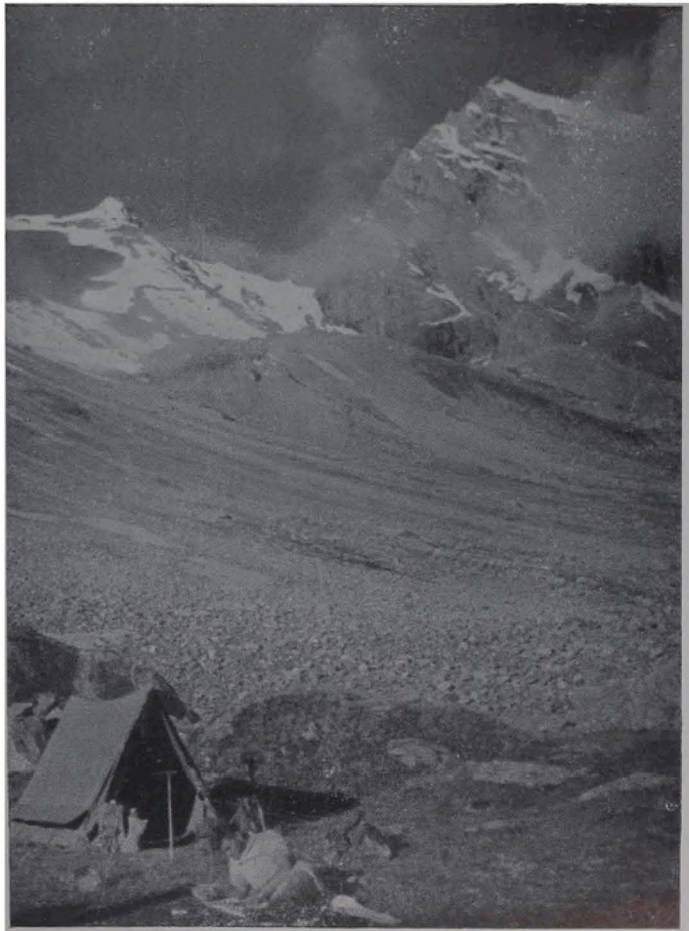
5 July. Off at 0445. We tramped across the bleak steppes and saw processions of laden yaks and mules heading toward Missar. At

1100 I had my first glimpse of Rakshas Tal (the 'demon's' lake)—a charming lake (despite its name) amid gorgeous surroundings, far more beautiful than I had imagined. All high peaks were obscured by clouds. In the afternoon the storm broke. A head wind and icy rain made conditions miserable. We were cold and wet when at 1900 we sought shelter in Nyanri (Chhuku) gompa. This monastery is situated about 300 feet above the Lha Chu, a lateral valley to the west of Kailas. It looked like a dungeon as we stepped inside its low-roofed dark chambers. And its state reflected little credit on those who dwell in it.

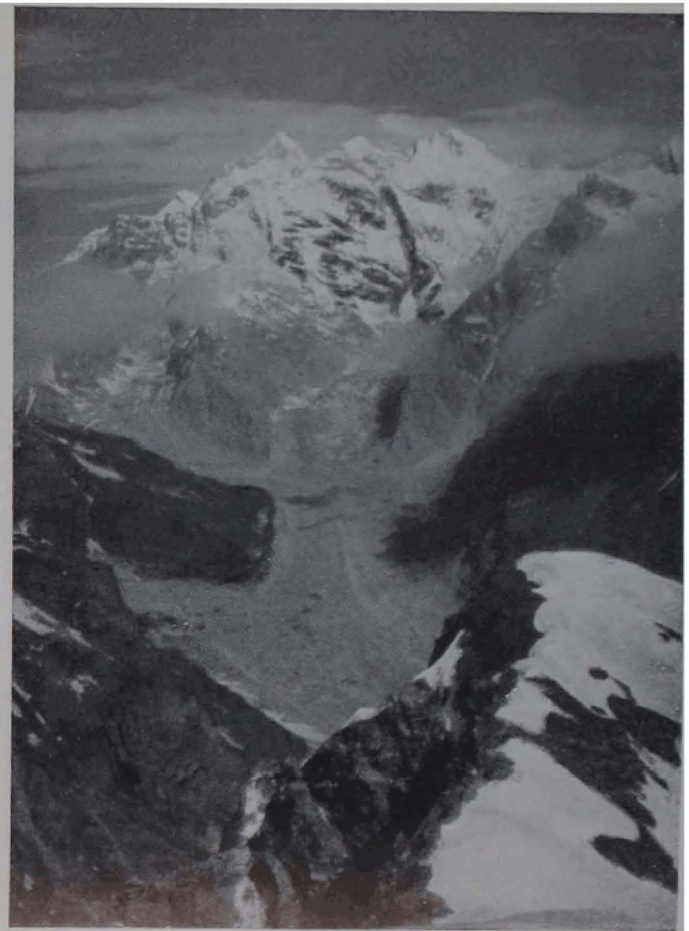
6 July. The head-lama was on tour and the three boy-lamas, all avaricious, made themselves more obnoxious than we could endure. After the morning drizzle stopped, we descended to the pilgrim route. Pilgrims, mainly Tibetans, singly or in twos and threes, were already on the march. Some of them were, it seemed, all set on making the circuit of the 'Holy One' in a day. The base of the west face of Kailas looked most sensational. The top remained hidden until we arrived at Diraphuk gompa, a monastery which commands a full view of the prodigious north face. The mountain is beautifully proportioned. A mighty cathedral; it seems to be a creation of some divine architect. No wonder it is considered so sacred by millions of Hindus and Buddhists. Late in the afternoon we paid our homage to the gilded images of the gods in a cave in the monastery. A musty odour, caused by the fumes of numerous butter-lamps, pervaded the whole atmosphere.

7 July. A thirteen-hour day including the 2½ hours' break for lunch at Zunthulphuk gompa. As we ascended the slopes leading to the Dolma La, over 18,000 feet, I noticed what I believed must be the south-east ridge. According to R. C. Wilson,[1] it provides the best approach to the summit of Kailas. But it would be a tough problem for even the most accomplished in ice-craft. Perhaps I merely conjecture. On the northern side of the pass our Garhwalis shaved off each other in the belief that it is a good religious practice. Close at hand were families of both screaming marmots and Guldenstädt redstarts, the latter very similar to the white-capped redstarts except for a distinct white patch on the wing. On the other side of the pass, about 300 feet below it, all of us bathed in Gourikund to invoke the blessings of Lord Shiva! Farther down fanatical pilgrims were seen doing the *parikrama* (circumambulation) by measuring their length on the ground and chanting 'Om . . .' as they went along. We are told it is a specially meritorious thing to do this year, since it is the year of the Ta-Lo pilgrimage, Tibet's greatest festival

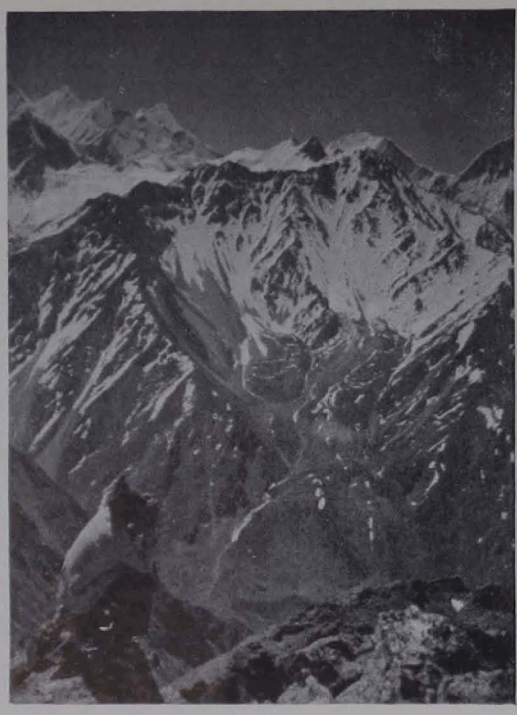
[1] *Alpine Journal*, May 1928.



Point 18,000 ft. (left) and Peak 19,030 ft. from Tala Camp, 14,400 ft. 12 July 1951



View north-west from Peak 18,470 ft. The distant range includes the Mara-Deobar group of peaks. Rata Pahar, 17,220 ft., lies in the foreground. 20 July 1951



View south-east from Pharchola, 15,830 ft. The distant range includes peaks on the watershed of the Dhauli and the Gori between Kalanka and Trisuli. 9 June 1954

Dunagiri and Trisul from near the Chor Hoti Pass. 25 June 1954

held every twelve years. Then we passed long rows of stones with those mystic words 'Om mani . . .' inscribed on them. As we approached Darchen a cumulo-nimbus cloud had cast a gloom over Kailas and to the south, well beyond Gurla Mandhata (which looked tantalizingly easy), the monsoon had undisputed sway. The *avant garde* of the Bhotias of the Goriganga valley was already at Darchen. Here the most influential person (called *labrung*), who was a Sikkimese, gave us accommodation for the night. Judging by the number of weapons he had, he was apparently a man of great authority. The night was spent in a room decorated among other things by a 12 × 16 inch coloured print of Mao Tse-tung.

8 July. We found two Indian pilgrims in a pitiable state, one suffering from acute dysentery and the other lacking any resources to buy food with in this austere land. We helped them in a small way. When we went to bid farewell to the labrung he told us that there was no likelihood of any harm being done to us in the daytime but it was necessary to take good care of our gear and ponies at night, for the danger of thieving scoundrels was not yet completely over, though it had lessened since the Chinese raj began. We ought to take a ferocious Tibetan dog on our travels, he said. After presenting him with a tin of Norwegian sardines, we set off at 0915 for Lake Manasarowar. A vast stretch of almost level ground with small streams flowing toward Rakshas Tal now lay in front of us. It was one big expanse of pasture-land. Dotted all over it were sheep, yaks, and graziers' tents, giving it a peppery effect. With the real onset of the trading season it would literally swarm with animals, we were told. We by-passed Parkha, a small though important settlement at the junction of a good many routes, and then traversed an arid, wind-swept, caragana-covered rolling land to reach Chiu gompa beside Manasarowar at 1730. The south-westerly wind howled outside as we lay in the top-most tiny cell of the monastery.

9 July. Spent the morning first at a thermal spring and then on the shore of Lake Manasarowar. The holy lake, flanked by the Gurla massif to the south, sparkled with an ethereal glow. Should the gods have forgotten to forgive all the sins earlier, a dip in it was deemed necessary. So we poured the holy sweet water on ourselves. The spring lies to the west of the monastery, about 200 yards distant, in a shallow channel (then dry) which links Manasarowar to Rakshas Tal. Apparently no sanctity is attached to the spring, for there was no sign of anything nearby to give that impression. Perhaps the shadow of the monastery is holy enough! Sulphurous fumes emanate from the bubbling water, all round of which there are masses of sinter. Late in the afternoon, accompanied on the way by a large

party of Bashahris, who had just completed the circuit of the lake, we reached Parkha. Here two Chinese soldiers, in padded khaki-cotton uniforms, asked us, through a Tibetan interpreter, what object we had for being in Tibet and whether we were carrying any cameras or arms with us. We explained the facts. Decent fellows they let us go, unsearched. I am told at the check-post at Taklakot the baggage of every Indian pilgrim is examined.

10 July. Some high Tibetan dignitary (called *urgu* by our men) and his convoy, with bells jingling and flags fluttering, passed by our camp at 0700. A gay crowd with a lot of pomp and circumstance; they were heading toward Gartok. We forded many a stream, but not the Sutlej, for it just did not exist on the direct route that took us to Lejandak. We are mystified where its source lies,[1] possibly in the range that runs to the west of Kailas, or perhaps it emerges from some subterranean channel of Rakshas Tal. At Lejandak at least six miles distant from Rakshas Tal, there is some kind of a river-bed, presumably the Sutlej's old bed, but it contains merely a chain of small pools.

11 July. A five hours' march to Chumersela, a camping ground which lies at the intersection of the direct routes from Darchen to Gyanyima and from Missar to Taklakot.

12 July. Having left at 0715, we marched along the trade-route and crossed into the basin of Langchen Tsangpo. The divide was studded with numerous cairns and near the top was a flock of some wild sheep. We soon lost the track and so decided to follow a dry watercourse which led us to Gyanyima. Feeling weary after being over ten hours on the move today. No traders have arrived as yet; we are a fortnight too early. Madho Singh tells me. The nearest encampment of nomads is nearly two miles away.

13 July. A hot dreary march across a vast plain. Packs of kiangs stared at us inquisitively, but they had long ceased to interest us. Waded through numerous channels of two rivers, the Darma Yankti and Guni Yankti. Near their head-waters lay the gentle slopes which led to the Darma La and the neighbouring passes across the Zaskar Range. Bhotia traders and Tibetan graziers were encamped at Gombachin. At sunset the snow of Gurla was flushed with a vivid crimson.

14 July. Five miles away was a larger encampment. Here shearing was in progress. An average fleece weighed a little over 2 lb. and fetched four rupees. Farther west the topography changed: we had entered the 'bad lands'. Shibchilam, another trading site, was still deserted.

[1] *This My Voyage*, by T. Longstaff, published by John Murray, 1950.

15 July. Several kiangs watched us from a close range and hares went leaping over the gorse bushes within a couple of miles of Dakar. Left the desiccated plateau behind. How wonderful the hill (that lay between us and the Sutlej) looked with its russet hues set against a gentian-blue sky!

16 July. We were not quite certain of our whereabouts in that bewildering chaos of ravines and ridges. So the last march to India turned out to be a ten-hour stage. We made toilsome ascents of three ridges before hitting upon the Marhi La, 16,430 feet, the gateway leading to India. Yet it was an exciting day. The downhill scree slopes, the familiar flowers round the corner, the rippling streams so refreshing to the eyes, the first view of the Hoti amphitheatre in the mellow afternoon light after three weeks in harsh Tibet, and, above all, the happy camaraderie among us—all these and the carefree joy of those moments will linger long in memory.

KANGCHENJUNGA RECONNAISSANCE, 1954

T. H. BRAHAM

THE party that was organized this year to explore the south-west approaches of Kangchenjunga from the Yalung glacier, was largely the result of fortuitous circumstances. John Kempe and G. C. Lewis had visited the Yalung glacier in the summer of 1953, and had enjoyed six weeks of excellent climbing and travel. They had succeeded in ascending the north-west peak of Kabru (*c.* 24,000 feet) and their situation provided them with a grandstand view of the mighty south-west face of Kangchenjunga. They were most enthusiastic when I met them on their return and expressed high hopes about the possibility of finding a climbable route from this side. They seemed eager to return to the scene of action, and little did I realize at the time that within a year I would be joining them on another expedition.

Towards the end of 1953 Lewis had started making definite preparations in England: and Kempe, who was in India at the time, was making strenuous efforts to get together a climbing party. Plans were already far advanced when Kempe invited me to join the party in January 1954. My interest in the project, at first undefined owing to the vast size of the problem, began to grow as each fresh letter from Kempe threw more enlightenment on the nature of the undertaking.

Previous expeditions to this side of the mountain had been few, and we had very little to guide us. This, I think, was the main reason why the adventure grew in interest both in the planning stage and, later, in the field. After Freshfield's journey round Kangchenjunga in 1899, the problem of finding a practicable route up the mountain began to be studied with some interest. Freshfield, whilst appreciating the enormous difficulties involved, had suggested three possible routes. One of these was an ascent of the south-west face at the head of the Yalung glacier by means of a shelf which slopes upwards from east to west, and is conspicuous from Darjeeling. He described it as 'a very direct route, . . . but a prodigious climb'. In August 1905 Dr. Guillarmod's party set out for the Yalung glacier, proposing to make an attempt via this route. They tackled the slopes leading to the western extremity of the ice-shelf. After a camp had been established at about 20,500 feet an avalanche overtook the party and Pache and three porters were killed. The Yalung glacier was not visited again until 1920, when Harold Raeburn and C. G. Crawford explored the upper Yalung glacier in September

and prospected up the south-west face of Kangchenjunga in an attempt to reach the ice-shelf. Placing a camp at about 20,000 feet, they climbed 1,000 feet higher before turning back. The only other recorded attempt from this side was made in May 1929 by a young American, E. F. Farmer. Placing a camp at the head of the Yalung glacier, he started up the ice-fall below the Talung saddle, and was attempting, apparently, to reach the saddle. Despite the warnings of the three porters who were his only companions, he continued alone and was never seen again. Of the other attempts on Kangchenjunga, it is worth mentioning that the International Expedition in 1930 under Professor Dyhrenfurth had probably established beyond doubt that the north-west side via the Kangchenjunga glacier could be ruled out as impracticable. The Zemu glacier approach, however, as a result of the two brilliant attempts made by the Bavarians under Paul Bauer in 1929 and 1931 via the north-east spur, remains a possibility open to further effort. There are some, amongst them the late Frank Smythe, who consider this to be the only possible route of ascent. Others, however, believe that the extreme dangers of the north-east spur combined with its great length are overruling factors against it. John Hunt and G. C. R. Cooke, when visiting the Zemu glacier in November 1937, investigated the possibility of reaching the north col of Kangchenjunga (*c.* 22,500 feet) which lies midway between the Twins and the junction of the north-east spur. This col, if attainable, thus leads direct to the north ridge of Kangchenjunga. It is formed by a steep wall of rock and ice rising about 2,000 feet above the head of the Twins glacier. Cooke and his porters, after some difficult climbing, almost succeeded in reaching the col.

The objectives of our expedition this year were limited. We hoped to explore the upper Yalung glacier as fully as possible, and to discover a practicable route to the great ice-shelf that runs across the south-west face of Kangchenjunga. The shelf is situated at an altitude between 23,000–24,000 feet and extends for over a mile, rising gently from east to west. The attainment of this shelf on a mountain of Kangchenjunga's size is but the beginning of the problem of ascent from this side. Beyond it rises a towering rock face of about 4,000 feet—steep, and bristling with numerous unknown hazards. We felt, nevertheless, that the shelf provided the key to the upper part of the mountain. To reach it, therefore, was our ultimate aim. What lay beyond could be studied closely; and perhaps, with a bit of luck, we might even set foot on the upper face itself. The problem of finding a route to the shelf, we realized, would be our main preoccupation. From the photographs that Kempe and Lewis had taken

in 1953 it was apparent that a steep and lengthy ice-fall provided a means of approach to the western or upper end of the shelf; but whether it provided direct access, and how dangerous it would turn out to be, were problems we would have to assess later. Besides, if the ice-fall were to prove impracticable, in any case, we would investigate other possible routes to the shelf.

The party comprised John Kempe (leader), who had climbed in Garhwal and Kulu; J. W. Tucker, who was a reserve for the 1953 Everest Expedition; S. R. Jackson, the most experienced rock climber in the party; G. C. Lewis, who had climbed before in Sikkim; and myself. Dr. D. S. Matthews was invited to join the party as Medical Officer. His presence proved most valuable, and in addition to the rôle of mess officer which he took on above base camp, he brought back several thousand feet of colour-film. With three members of the party in England and three in India, organization was simplified to some extent, and the expedition was delivered safely to its starting-point in Darjeeling well within its prescribed schedule. We owe our thanks to the many firms in England and in India who made us generous gifts of equipment and food. We owe also a debt of gratitude to the Mount Everest Committee in London, who not only gave us their blessing, but also provided us with a valuable grant.

The main body of the expedition, except John Kempe, was assembled in Darjeeling on 8th April. Mr. and Mrs. Henderson, who were away on leave, had most generously placed their lovely bungalow at our disposal. It was a relief to know that they could not witness the appalling chaos of those few days before our departure; although we did confine our messiest bits of packing to one corner of their house. Ajeeba was appointed sirdar and seven other Sherpas were engaged. Ajeeba had been sent out on a preliminary reconnaissance in January in order to determine the most suitable route for the outward march; and also to make arrangements for supplies of tsampa for the expedition with the headman of Ghunza in Nepal. Despite his reports, we were unable to decide which of two routes we should follow. The alternative lay between a high-level route in Sikkim along the Singalila ridge, devoid of habitation and supplies, or a low-level route through Nepal, along the villages of the Tamur valley to Ghunza and Tseram. The latter route appeared to be slightly longer; and for this reason, wrongly as it turned out, we chose the Singalila ridge. Food for our porters for the whole twelve-day journey to Tseram, therefore, had to be carried from Darjeeling. On the day before our departure the front lawn was filled with seventy-odd ragamuffins. Packing and weighing had been completed, and sixty-five porters were required for our 4,500 lb. of baggage.

Donald Matthews set to work, and much merriment was caused whilst male and female, young and old, were submitted to his stethoscope and said 'Ah' to his order. The group finally chosen comprised mainly Sherpas with a mixture of Nepalis, and included fifteen women, all Sherpanis.

We left Darjeeling shortly after midday on 10th April; our destination was Tanglu bungalow, situated at 10,000 feet on the Singalila ridge. Lewis stayed behind with four coolies and a Sherpa to await Kempe, who planned to leave Darjeeling on 16th April. We motored to the village of Mane Bhanjan where we arrived at 3 p.m. There we began the long, steep ascent to Tanglu, arriving exhausted at past seven o'clock long after dark. Ill weather trailed our march along the Singalila ridge. A high wind, hail, and sleet accompanied us for the latter part of our march to Sandakpu, 12,000 feet, and most of the porters straggled into the bungalow late in the night, drenched, shaking with cold, and too miserable even to cook and eat. A section of the Nepalis had to be cajoled into starting the next morning, and we regarded their reluctance, at this early stage, as an ill omen. There were magnificent views of Kangchenjunga, Makalu, Everest, and Lhotse; lofty, distant, and seemingly unapproachable. Ajeeba's control over the caravan appeared to be rather weak; and when, after Phalut, we made our first camp at Chiya Bhanjan, an unpleasant harangue arose over the coolies' food-ration scale. This was eventually settled, but not too happily we thought. The arrival on the scene of a native Ghunza warned us of bad conditions farther ahead; he was a happy fellow and we engaged him as a willing porter and guide. The following evening, when we were camped at Nayathang, an exposed alp on the ridge at 11,000 feet, a violent thunderstorm broke. Furious winds and rain lashed the camp, and thunder boomed fiercely. The storm raged throughout the night and two of us were struck by lightning, one receiving a burn in his forearm. The roof of a large mess tent, which had sheltered about twenty coolies, was ripped by the wind. The next day, our fifth from Darjeeling, we reached Meguthang after a long march of endless climbs and descents rendered rather trying by the fresh snow which covered the path. Here, a crisis developed over transport. The whole of the Nepalese group refused to start, claiming that what they had already endured would be nothing compared to what lay in store; nothing would persuade them to change their minds. There were twenty-one men in all who deserted; and with them went three Sherpanis and one Sherpa. Following our initial sense of loss, we were almost relieved to see them go; for they were troublesome, craven-hearted fellows. Our porter strength was now reduced to

forty, and we set to work at once reorganizing loads and fitting out everyone with footwear and goggles. A ferry of twenty-five loads went up the valley towards the Garakhet La, *c.* 14,000 feet, the same day and returned to camp in the evening. Our reduced porter strength entailed more work for everyone, but we reached Tseram, I think, only three days behind schedule. The high-level route was decidedly unpleasant at this season with the snow-line well below 14,000 feet. We crossed four passes between 14,000 feet and 16,000 feet. The Chumbab La, *c.* 16,000 feet, was the highest; but the Semo La, *c.* 15,300 feet, gave us the most trouble. On its northerly slopes, which we descended to the Kangla Nangma valley in Nepal, several feet of fresh powder snow unsettled the porters; about half a dozen stalwarts worked bravely organizing rescue operations before every man, woman, and load was delivered safely on the other side of the pass.

We reached Tseram on 21st April. We had discovered at Gopethang on the 18th that we were running short of coolie food, so Ajeeba was dispatched to Ghunza with all haste to implement the arrangements he had made for supplies in January, and to meet us in Tseram. The 22nd April was spent in Tseram reorganizing food and gear, and picking eighteen volunteers to make the initial ferries up the glacier. The remainder of the coolies were dismissed; I think we were all sorry to lose 'Dum Dum', a tubby lad from Tonglu who always smiled, never complained, and was shockingly imposed upon in the allotment of loads: he was too simple even to recognize this. Like Mr. Wardle's 'fat boy', he seldom spoke. I hope that 'Dum Dum' arrived home with his wages intact; his companions seemed to show too great an eagerness about its safe keeping. We shared our encampment with the family of an old yakherd from Ghunza. His two sons, sturdy men of Tibetan stock, accompanied us with loads up the glacier the next day. In return for Matthew's attention to his chronic conjunctivitis the old man presented us with a large dish of potatoes.

Above Tseram the huge terminal moraine of the Yalung glacier blocks the head of the valley; the Kabru ridge, glistening in the background, rose beyond the boulder-strewn wastes framed between rocky walls: the scale is immense, befitting a great Himalayan glacier. Jackson and I, accompanied by three Sherpas, left Tseram on 23rd April, escorting the first ferry of twenty porters; our aim was to set up a temporary base camp. We started early on a beautiful morning, and following good tracks we reached Upper Ramser in a little over three hours. The solitary herdsman's hut here was deserted except for a few yaks. The view was impressive. To our left rose the

rocky slopes of Boktoh, 19,500 feet, attempted by Kempe and Lewis last year. To the right Rathong peak, *c.* 22,000 feet, rose to a finely shaped summit, near at hand and, at present, more inspiring than the long ice ridge of Kabru which stretched away to the north. Just across the expanse of ice and rubble of the Yalung glacier and its tributary the west Rathong glacier, about 4 miles away, rose Koktang peak, 20,166 feet, a beautiful mountain with a fine fluted summit ridge of ice. Between Rathong and Koktang we could see the Rathong pass first climbed from this side by Raeburn and Crawford in 1920. Rounding a bend in the valley above Upper Ramser we gained our first view of Kangchenjunga, a magnificent sight; the ice-shelf was visible, and the steep rock face above, unexpectedly clear of snow. About 2 miles above Ramser we found a pleasant place for a camp; the coolies dumped their loads and made off for Tseram. We estimated our height at about 15,000 feet. In the evening we climbed the moraine ridge above camp and looked down on to the vast expanse of glacier, which appeared to be over a mile wide at this point; it swept round in a great curve to the right towards the foot of Kangchenjunga. Kabru and Rathong rising from the opposite bank appeared to be quite unapproachable from here owing to the immense hanging glaciers which were attached to their lower slopes. The next morning was fine again and we set off up the valley to select our next camp-site. We followed the moraine ridge hoping to find a suitable crossing place to the left bank of the glacier. Reaching a cut-off below the Tso glacier where the ridge had tumbled into the moraine below, we retraced our steps along the avalanchy slopes and tried to force a descent. We soon came upon Kempe and Tucker who had left Tseram early that morning. We finally selected a suitable place for a descent and proceeded to prepare the way. It was an unpleasant place and involved a steep 200-foot slope composed of loose and crumbling debris. We fixed a rope here as a handrail for the porters, and as the main party was far behind, we decided to make the crossing together the following day. We pitched camp about 2 miles above our former site, and were soon comfortable inside our tents whilst the usual afternoon snowfall started. Kempe and Lewis, travelling light, had taken only eight days to reach Tseram from Darjeeling; they had brought with them some welcome mail. Most of the loads had now been ferried up from Tseram, but Ajeeba had not arrived yet from Ghunza, and our shortage of porter food was beginning to cause some alarm.

The whole party moved up the next day; the descent from the moraine ridge to the glacier could be negotiated by only one man at a time, and it took over three hours before all the loads were

finally assembled at the bottom. The next section involved three hours of boulder-hopping; we then crossed the glacier at a right-angle and climbed steeply up the other bank, camping on a grassy shelf at about 16,000 feet, a mile short of 'Nao' camp. Ferry parties were organized the next day to bring up the remaining loads from below. Ajeeba had sent some porters with about 100 lb. of food but the tsampa was of inferior quality, and the Sherpas refused to eat it. We took an inventory of our food, and decided that immediate action was necessary. Kempe and I left for Tseram with seven Sherpas; one of the Sherpas, Ang Dawa, had developed mumps and would have to be left to recuperate there in the yakherd's care. Tucker and Jackson, meanwhile, were to take a light camp up the glacier to select a possible site for an advanced base camp, and to study the problem of an approach to the ice-shelf. On our arrival at Tseram there was still no sign of Ajeeba; he had been gone ten days, and the time had come to devise an alternative plan. Two Sherpas were accordingly instructed to descend to Yenguthang, one long day down the valley, where supplies were stated to be available, and rejoin us at advanced base in six days; two more were sent to Darjeeling for sugar, atta, and kerosene and instructed to meet us again within a fortnight. Both these parties performed splendidly. Kempe and I then returned with our two remaining Sherpas, and reached the upper camp to find only Lewis in residence with two Sherpas. Tucker, Jackson, and Matthews were camped on a rocky outcrop below the north-west face of Talung peak. Kempe and I moved up the next day, accompanied by a ferry of Sherpas. With our Sherpa strength now reduced to four, it would take several days to move everything up. We met Tucker's party in the afternoon, and camped beside a small dry lake above a tributary glacier issuing from Talung peak. The next morning we moved to a better site half a mile higher up, overlooking the head of the main glacier. From this camp, *c.* 17,000 feet, we were in a position to examine the south-west face of Kangchenjunga and to study the main approaches to the ice-shelf. The view was magnificent. An immense mountain wall, thrusting dozens of summits upwards, encircled the entire glacier head. From the Talung saddle in the east to Kangbachen and White Wave peak in the west, the ridge was continuous, seldom less than 24,000 feet high, with the main summits of Kangchenjunga rising vertically 10,000 feet above the glacier. The steepness of the upper face, rising about 4,000 feet above the ice-shelf, was deceptive; but it seemed to be quite possible to traverse diagonally upwards to the left, beyond the upper end of the shelf. This upward traverse, by means of a snow slope skirting a familiar sickle-shaped rock buttress,

led to a point on the rocks of the summit ridge. The rocks were quite free of snow, but appeared to be difficult; we estimated the distance between the summit and this point on the summit ridge as about a quarter of a mile with probably 750 feet of ascent. As to the question of a route to the shelf, there appeared to be three possibilities. The first was the main ice-fall, a horrible mass of tottering seracs and ice-blocks, coursing its tortuous way down to the glacier from the upper end of the shelf 6,000 feet above. The next possibility was a hogsback ridge or spur abutting against the south-west face and leading to the lower or eastern end of the shelf; the approach to the hogsback was not visible from our camp, but obviously lay in the direction of the ice-fall below the Talung saddle. A third possibility was the ascent of a tributary glacier to the left of the main Kangchenjunga ice-fall. It appeared that above the seracs of this glacier the possibility existed of entering the upper part of the main ice-fall; this assumption proved to be wrong later. Subsidiary glaciers reduced in size, issuing from the north face of Talung peak, were constantly avalanching and presented a serious threat to the entire right-hand edge of the main glacier below.

Whilst our four Sherpas were engaged lifting loads from the lower camp where Lewis was organizing ferries, the rest of us went up the main glacier. We followed a medial moraine, which provided very comfortable going for about three-quarters of a mile, until we reached ice. The ice was very broken, except at the right-hand edge where the smooth surface was scattered with the debris of avalanches which were constantly pouring off the precipices below Talung peak. Avalanches of every size and description hurtled down this face every hour of the day and night, and almost made us wonder, at this rate of destruction, for how many years the supply of ice could possibly last. After about four hours' going, we reached the foot of some large seracs beyond which stretched a broad ice-field to the foot of the Talung saddle ice-fall. By this time the weather had deteriorated, and we made our way back to camp in a snow squall. We found Ajeeba there, with five coolie loads of supplies from Ghunza; his absence of a fortnight, which had delayed our advance up the glacier and had caused us to fall seriously short of porters' food, was explained by the Ghunza headman's repudiation of his agreement over supplies. This story, if true, did not enhance our opinion of Ajeeba's competence as a sirdar. The next day, in very poor weather, Kempe and I crossed the glacier in order to have a look at the route up the subsidiary glacier to the left of the main Kangchenjunga ice-fall. There was low cloud all morning and some snow showers, but the weather improved in the afternoon, and our

determination to continue was rewarded. Reaching the opposite bank of the glacier, we negotiated some steep rocks above the moraine and followed a long, grassy ridge overlooking the snout of the subsidiary glacier now in a state of retreat. At the farthest end of this ridge we came upon the remains of Guillarmod's 1905 camp. A crude wooden cross marked Pache's grave; the tent platforms were remarkably well preserved, and old tins lay scattered about; we were obviously the first visitors since the camp had been abandoned forty-nine years ago. The site proved to be a good viewpoint. We could judge clearly now the dangers of the avalanchy slopes above, clearly marked with tracks of recent falls. The slopes led to a shoulder culminating in a subsidiary point, which, we thought, might give access to the main ice-fall on the right. We were to discover later that this was not the case; and, therefore, the only possible purpose this route might serve would be to provide the beginning of a prodigious climb up the south-west face, to a point on the summit ridge more than a mile away from the summit of Kangchenjunga, and over another summit of about 27,000 feet. The point which we reached on the glacier yesterday could be seen now in better perspective; at the head of the glacier we could see the Talung saddle ice-fall which had been described by Harold Raeburn as 'vicious in the extreme'. The next day, whilst the remaining loads were ferried up to our 17,000-foot camp, Tucker, Jackson, and Lewis went up the glacier to prepare a route beyond the seracs to the ice-field at the head. Kempe, Matthews, and I spent the morning ascending the lower ice-fall below Talung peak; part of this route was familiar to Kempe from this ascent of the north-west peak of Kabru in 1953. Heavy cloud robbed us of a view of Kangchenjunga, which was the main object of our excursion.

On 5th May Jackson and I established a camp on a rocky outcrop below the big seracs guarding the ice-field. The next morning Kempe and Tucker arrived from below early and accompanied us up the glacier. Skirting the seracs to the left, we found a good route, though not quite out of range of the bombardment from Talung peak. We advanced towards the head of the glacier below the Talung saddle ice-fall, and here, at about 18,000 feet, we decided to place our advanced base. Setting aside Pache's grave route for the moment, we decided to examine (*a*) the Talung saddle ice-fall, and (*b*) a rock rib which seemed likely to give access to the upper part of the main Kangchenjunga ice-fall. Kempe and Tucker returned to the lower camp to organize the advance of the main party, while Jackson and I on 7th May established a camp at the head of the glacier. We took care to choose a site which appeared to be reasonably out

of range of avalanches from Talung peak to the right, and from the ice-shelf, 6,000 feet above to the left. That afternoon we reconnoitred a route up the lower part of the ice-fall, and reached the foot of a prominent conical-shaped rock buttress at about 19,000 feet. The weather, unfortunately, was cloudy with snow showers. We enjoyed some fine ice climbing but the steeper slopes were unsafe with a thin covering of new snow. The following day Lewis brought up four laden Sherpas. Kempe and Tucker were busy trying to find a route to the left of the seracs, as a short section of our original route was exposed to avalanches on the right-hand edge which appeared to grow more and more menacing. Eventually our first route proved to be the most practicable, and was traversed safely innumerable times, although the increasing debris changed one section almost beyond recognition. On 9th May Jackson, Lewis, and I went up the Talung saddle ice-fall to extend our earlier route. It was obvious from below that just above a wide area of seracs, the base of which Jackson and I had already visited, lay a snow basin at about 20,000 feet. From this basin it seemed possible, by traversing left on the edge of the upper seracs, to reach an upper basin at approximately 21,500 feet. From the upper basin, it appeared that a steep traverse to the left would give access to the hogsback ridge. From this ridge, a short, exposed section led direct to the eastern end of the ice-shelf. The section leading from the upper basin to the hogsback was not visible from below; the presence of steep, overhanging ice was suspected, and careful investigation would be required. We reached our previous point in 1¼ hours, though it had taken us 2½ hours before. This, however, virtually marked the end of our progress for the day. A slippery rock and ice gully slowed us, and rounding a corner to the right we reached an entrance into the first snow basin. Jackson and Lewis climbed 100 feet of steep rock above this to gain a better view, but the weather had closed in and it was soon snowing. The possibility of an avalanche from the upper seracs directly above us gave us an unpleasant feeling all morning, and we left having accomplished little. On 10th May we went up the ice-fall again; this time we bore to the right, and reaching the seracs, we managed to surmount a ten-foot wall, from where we looked into the snow basin. The next day Kempe and Tucker took a Sherpa up to prepare and flag the route. Jackson and Lewis, meanwhile, went to examine the rock rib east of the main Kangchenjunga ice-fall, which turned out to be unpromising. We took a party of Sherpas up the ice-fall on 11th May, and with the aid of a fixed rope they negotiated the ice-fall without difficulty. Barely 100 yards beyond this, we reached a huge crevasse guarding the entrance to the basin. It extended throughout the

length of the slope, and there was no way round. At its narrowest point, about 10 feet across, a sectional ladder would have got us over. We made an unsuccessful attempt to get across, but realized, in any case, that it would be unreasonable to expect the porters to follow. Disappointed, we returned to camp and decided to move lower down as the constant thunder of avalanches at the head of the glacier was becoming quite unnerving, and on more than one occasion an onrush of finely ground ice dust had reached our very tents. We found a good site on rocks near the foot of the main Kangchenjunga ice-fall at about 17,500 feet. Ajeeba was sent down to Ramser with a party of Sherpas to fetch some wooden poles from the yakherd's hut, whereby we hoped to construct a bridge across the crevasse.

Meanwhile, we turned our attentions to the Kangchenjunga ice-fall. On our first excursion we were pleasantly surprised to find how easy it turned out to be, and in 2 hours we were able to ascend 1,500 feet without meeting any difficulties. We had discovered that the ice-fall was composed of roughly three sections. The lower section rose for about 3,000 feet to a broken plateau roughly half a mile wide; this led in turn to a steep upper section of approximately 2,500 feet ending on the western extremity of the ice-shelf. On 14th May Kempe, Tucker, and I, with one Sherpa, started up the ice-fall again, flagging our route. Following our original tracks, we reached our previous highest point in just over an hour. A few hundred feet above this we reached an area of huge table-topped ice-blocks riven with deep crevasses. We spent some time looking around for an alternative to the right and to the left, but eventually returned to our original impasse, where we found that the problem was confined to an 18-foot near vertical ice-wall with a rickety ice-block as a starting-point. It seemed a doubtful proposition, and bore an air of impermanence; although I believe that the wall itself could have been won by means of a generous ice staircase and a stout handrail. We were able to observe later that above this point the main difficulties of this lower section appeared to be less offensive as far as the midway plateau. Whilst we were thus engaged, Jackson and Lewis were busy at the extreme right-hand edge of the ice-fall, where a narrow rib of rock forms its eastern containing wall. They had managed to gain about the same height as ourselves, but had traversed thereafter on to the rib, and were able to enjoy a fine walk along its rocky crest, making good height all the while. Reaching its extremity at over 20,000 feet, they had attempted to cross over on to the ice again, but wisely returned owing to the late hour and the treacherous state of the seracs. They experienced great difficulty

descending the ice-fall again after leaving the rib, and did not recommend their route along the right-hand edge of the ice. After this it was decided that an attempt ought to be made to reach the top of the rock rib, where there was reported to be a good site for a camp. We started up the ice-fall the next morning, taking a line to the right of our original route, but soon realized that the portents were becoming too alarming, with dangerously poised blocks at our heads and debris scattered about generously. It was obviously better to leave this bit alone, so we split into two parties. Jackson and Lewis volunteered to exploit a rock buttress in an attempt to find an alternative approach to the top of their rock rib: Kempe, Tucker, and I mustered some porters from below, with the wooden poles which had now arrived, and started up towards the Talung saddle ice-fall. A shock greeted us when we saw the debris of a huge avalanche scattered across the bottom of our former route. But the biggest shock came when we reached the crevasse. The place had altered greatly, and the width of the gap, at its narrowest point, appeared to be about 15 feet now. Even the tallest of the poles proved inadequate for our purpose. The whole area had been shattered by some vast glacial movement. We dumped the poles disconsolately and started down. The other party returned to camp soon after, and gave us the good news that they had arrived at the top of their rib by an entirely safe and straightforward route up the rock buttress. This was a fine piece of route-finding, for the apparently steep and exposed nature of the buttress had misled us into regarding it as unworthy of further examination. We carried a camp up the buttress on 16th May with eight Sherpas, two of whom we retained. The route turned out to be surprisingly easy; at three points handlines were fixed, but the porters appeared to be quite at ease on the rocks and had to be persuaded to put on a rope. At the top of the rib, at about 20,500 feet, we found an excellent camp site, and were soon busy erecting our tents. One unhappy incident marred the day's general feeling of jubilation. On the scree slopes at the foot of the buttress, a stone had been accidently dislodged, and before Matthews was able to heed the warning from above, it had struck the little finger of his right hand causing a deep laceration and fracturing a joint. He had joined us to film the climb, but was now obliged to return to camp and insisted that none of us should accompany him back except his personal Sherpa. The 17th May dawned cloudy. After an early breakfast we climbed the slopes above our camp to find that access on to the ice-fall looked unhopeful. Jackson and Lewis stated that the ice formation had undergone some change since their last visit, and as we looked at the tottering pinnacles of

ice above and below, it was only too evident how continuous the process was. It seemed unwise, from here at any rate, to attempt to force a passage. Donning crampons, we raced across a narrow but ominous ice gully to the right, and gained a subsidiary spur on the edge of the ice-fall. Climbing along this for a couple of hundred feet, we reached a cut-off, and realized that the only possible means of access on to the ice-fall was slightly below and to the left. The existing conditions, however, were too dangerous to justify an attempt, and a driving mist had, by now, hidden from us the upper part of the ice-fall. Later on, from Talung peak, we estimated that had we succeeded in entering the ice-fall at this point, we would have found ourselves approximately 500 feet below the midway plateau. On returning to camp we were greeted by three Sherpas who had come up from below. They reported that an avalanche, rather more terrifying than usual, had fallen in the night, and that one of their tents had been struck down by the blast. As it seemed that no useful purpose could be served by our continued residence at our high camp, we packed up in a snow squall and started to descend. On arrival below we found Matthews in good spirits, despite his injury. Our first task was to move the camp to a safer site, which we were able to find about 200 yards lower down. The next was to hold a council of war. Despite our efforts on both routes, the ice-shelf had eluded us. Pache's grave route did not seem an attractive alternative. But for our deficiency in bridging equipment, we would have entered the snow basin below the Talung saddle; and also, we thought, overcome the lower section of the Kangchenjunga ice-fall.

More as a gamble, I suppose, than in the belief that it would enable us to establish ourselves on the shelf, we decided to make a last determined effort to reach the snow basin below the Talung saddle. As the crevasse was still impregnable, we would make our bid via the rock and ice gully to the left of the seracs and below the conical-shaped rock buttress. Our object, really, was to reach the head of the basin and, if possible, explore the route to the upper basin; also, chiefly, to study the section landing from the upper basin to the hogsback. The morning of 18th May was cloudy, and I was very disappointed; for I had a secret hope that, as we felt fit and were thoroughly familiar with the lower part of the route, we would make a supreme effort to go high today. Jackson and I, accompanied by a Sherpa, left camp at 8. We reached the foot of the Talung saddle ice-fall in an hour; menacing clouds were travelling up the valley, and enveloped us half an hour later, when light snow began to fall. We reached the gully after negotiating some steep seracs, and started to tackle 50 feet of rock slabs, our last

Photo T. H. Braham

Kangchenjunga from 17,000 ft. camp on Yalung glacier showing main ice-fall left and hogsback right. Arrows indicate Pache's grave

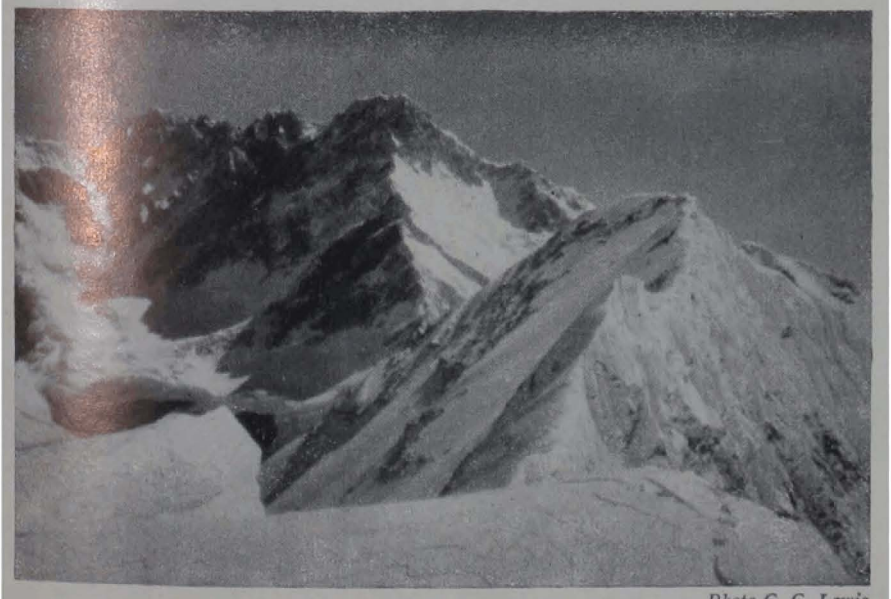


Photo G. C. Lewis

Upper face of Kangchenjunga above ice-shelf, showing sickle-shaped rock below and to left of summit. In the right foreground is Talung Peak

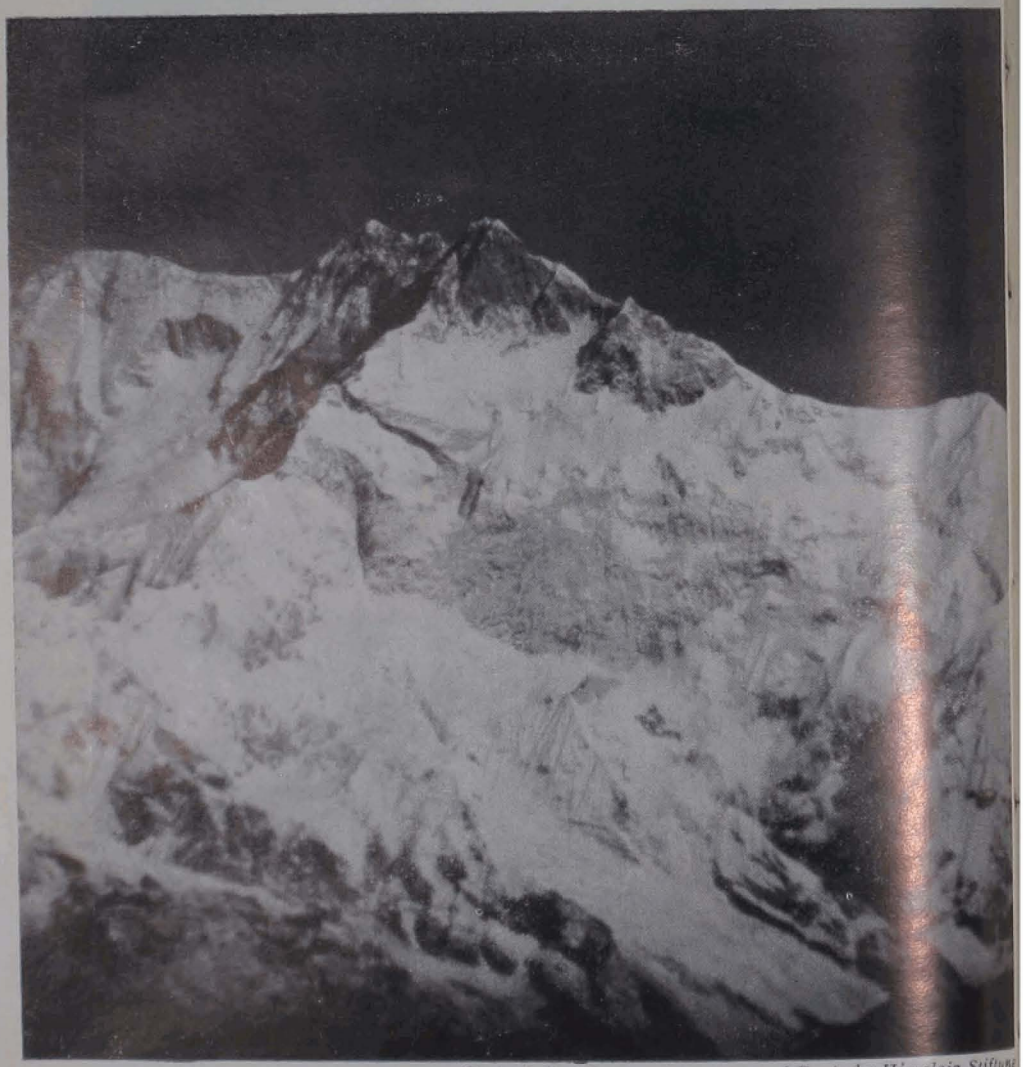


Photo Julius Brenner by courtesy of Deutsche Himalaja Stiftung

Kangchenjunga from the south

obstacle before the snow basin. There were three easy pitches which we negotiated moving one at a time. Jackson, finishing the last, called out that we were five minutes from the basin. I was last on the rope, and was just preparing to begin the final pitch when we heard an ominous crack from above. We crouched our heads as boulders began to hurtle past, and in an instant I received a terrible blow on the head. Completing the pitch, we raced for shelter under an ice overhang, and took stock of our position. Fortunately, my scalp injury was not serious, but the accident had put paid to our plans for the day. Jackson advanced some distance towards the basin, and was able to see the big crevasse about 150 feet below, some distance away to the right. Immediately ahead, beyond an initial crevassed area, the basin appeared to be devoid of hazards as far as visibility would allow. We had paid for our folly in exposing ourselves to the patent dangers of the gully route, and, as we turned our backs to the basin for the last time, regret made our disappointment the more bitter. The descent to camp was accomplished without incident. Matthews stitched my wound, and I was confined to my tent for the whole of the next day, anguished as much mentally as I was physically.

Matthews and I had to return to our respective jobs and it was decided to quit the mountain, and to make an attempt on Talung peak, *c.* 23,000 feet. Ajeeba was sent down to Ghunza to recruit porters for the return journey. Kempe, Tucker, and Lewis descended to the 17,000-foot camp on the 19th; Jackson, Matthews, and I followed on the 20th; the changes on this part of the glacier in three weeks astonished us. On arrival at the lower camp we were able to observe the three others on the slopes of Talung peak locating a camp site for their attempt. They returned full of enthusiasm; it had been a joy to climb without the oppressive feeling of threatened avalanches poised above. They would take a camp up to about 21,000 feet tomorrow, and attempt the summit the next day. The thought that I would not accompany them depressed me for the remainder of the afternoon, especially as my injury had so far healed unexpectedly well. Our last evening together was spent enjoyably. We lit a bonfire of cardboard boxes and packing paper and sat round it yarning and smoking until the evening cold drove us into the mess tent.

On 21st May, whilst Matthews and I descended to Tseram, the others went up Talung peak. They found a good camp site as a result of their reconnaissance, but were prevented from reaching the top by a nasty cut-off which barred access to the upper part of the north face; they discovered later that the route lay slightly farther

to the west. The most useful result of the climb, however, had been the opportunity to study both the Kangchenjunga ice-fall and the hogsback route. After the climb they descended to Ramser, where they were met by Jackson's brother John who arrived with providential supplies of food, a gift from the *Daily Mail* 'Yeti' expedition which had just concluded. Matthews and I returned via the Chumbab La, Yampung, and Pemienchi, returning to Darjeeling on 28th May. The others followed the Singalila ridge back. Lewis, accompanied by a Sherpa, came back via Yenguthang, Khebang, and a low-level route through Nepal, meeting the others again at Phalut bungalow. This route is strongly recommended to future expeditions, as the Singalila ridge proved to be unsuitable for a large party in the early spring.

Summing up the results of our visit, it would seem that the Kangchenjunga ice-fall offers the best chance of success. The problem is immense, with 6,000 feet to be traversed from the foot of the ice-fall to the edge of the shelf. Beyond the shelf, one is struck by the predominant steepness of the upper face of Kangchenjunga. The approach to the eastern end of the shelf, via the hogsback, greatly favoured in the early stages, is probably unworthy of further effort after the conclusion reached from Talung peak that access on to the hogsback was rendered impossible owing to overhanging ice. Avalanches are a serious menace. It is probably no exaggeration to say that during May there is one every ten minutes on the upper glacier. Good weather is essential. From the experience we gained, May would seem to be the best month for the main assault. Fine mornings and evenings were generally the rule, with snow falling in the afternoon or at night. Storms were rare, and of short duration. By normal standards, neither of the two routes we examined can be regarded as completely safe. But Kangchenjunga is almost a law unto itself. Fluctuating natural factors, the exigencies of the moment, and, to some extent, good fortune, will guide the judgement of those who are ultimately successful.

KANGCHENJUNGA CLIMBED

GEORGE BAND

In writing this personal account of the Expedition, I am greatly indebted to Charles Evans and to *The Times* for permission to quote freely from his dispatches. The responsibility, however, for any errors, omissions, or opinions is mine.—G. C. B.

IT was a dull October evening and the rain-washed cobbles leading up to Lime Street Station reflected the foggy light of the street-lamps. My train had just steamed in and, dumping my heavy luggage, I made straight for a telephone call-box.

'Is that you, Charles? This is George here. I'm back.'

'So what,' he probably murmured. But I knew that, on the recommendation of Sir John Hunt's sub-committee, the Alpine Club had asked Charles Evans to lead a strong reconnaissance expedition to Kangchenjunga in the spring of 1955. Having just returned from the Karakoram by car, I was anxious to submit my application to join the new expedition before it was too late.

My knowledge of the previous attempts on the mountain was sketchy—I had not then had the benefit of the last two ALPINE JOURNALS[1]—otherwise my eagerness would have diminished rapidly. For once, I had cause to thank my unretentive memory and limited perusal of the literature. They prevented me from recalling the following opinions:—

Freshfield, on the North-west Face, 1899: 'The whole face of the mountain might be imagined to have been constructed by the Demon of Kangchenjunga for the express purpose of defence against human assault, so skilfully is each comparatively weak spot raked by the ice and snow batteries.'

The Editor of the ALPINE JOURNAL commenting on the heroic Bavarian attempt, 1929: '. . . a feat without parallel, perhaps, in all the annals of mountaineering.'

Dyhrenfurth, on the International Expedition, 1930: 'A high cracking sound was the first thing I heard. Then I saw that at the very top of the cliff—somewhat to my right—an ice-wall perhaps one thousand feet wide was toppling forward quite slowly. . . . There were, after all, only three possibilities. I could be knocked out by the

[1] *A.J.* 59. 428–31. The official report of the 1954 Reconnaissance Expedition to the S.W. Face of Kangchenjunga, on whose information we were acting.

A.J. 60. 83–95. A summary of the exploration and previous attempts on Kangchenjunga.

ice-blocks, suffocated by the snow-dust or swept away by the avalanche, and hurled into the great crevasse. . . . I lay in the snow and awaited death in one form or another.'

Smythe, examining the South-west Face through a telescope from Darjeeling: 'There would seem to be little justification for a further attempt from this side.'

Sir John Hunt: 'There is no doubt that those who first climb Kangchenjunga will achieve the greatest feat in mountaineering, for it is a mountain which combines in its defences not only the severe handicaps of wind, weather, and very high altitude, but technical climbing problems and objective dangers of an order even higher than those we encountered on Everest.'

I was soon discussing the expedition with Charles, and these quotations are included not through any sense of vaingloriousness but to show how lowly we then assessed our own chances of success. Our task was to examine the upper part of the mountain, with the limited objective of reaching the Great Shelf—a conspicuous ice terrace stretching across the Yalung (South-west) Face at about 24,000 ft. (So far, no party had been above 20,000 ft. on this face.) At the same time, just in case things proved easier than expected, Charles was planning to take oxygen and sufficient equipment to launch an attack on the summit. This was to be a reconnaissance in force.

THE TEAM

Among mountaineers the rival merits of the large, sponsored expedition lavishly equipped, where the atmosphere is necessarily formal, and of the small frugal expedition of three or four adventurous friends, are sometimes hotly disputed. In choosing a compact team of nine—eight climbers and a doctor—six with considerable previous Himalayan experience, Charles Evans hoped to have the best of both worlds.

NORMAN HARDIE, 30, civil engineer and an experienced New Zealand climber, distinguished himself last year as a member of Sir Edmund Hillary's expedition to the Barun Valley. Charles nominated him as his deputy, a position which he thoroughly earned by reason of his terrific capacity for work. He had a restless bounding energy that found its outlet in chopping steps for hours, tinkering with oxygen equipment for which he was responsible, or perpetuating the songs of the Sherpas on his tape-recorder.

JOE BROWN, 24, Manchester builder and weekend climber, whose unpretentious ways hid the fact that in recent years he had set a new standard in British rock-climbing. In the Alps in 1954, he astonished

Continental mountaineers by repeating the West Face of the Dru in twenty-five hours' climbing and forcing a new route up the West Face of the Blaitière with Don Whillans (*A.F.* 60. 25). Small and muscular, he was the youngest in the party and had not been to the Himalayas before.

JOHN CLEGG, 29, Liverpool University anatomist, was our doctor. A Territorial Army paratrooper and a hefty rugby forward, he was also a competent all-round Alpine climber, and became a great asset socially for his inexhaustible repertoire of medical student songs.

JOHN JACKSON, 34, a sturdy Yorkshire schoolmaster, had many years of Himalayan experience; in Kashmir with the wartime Aircrew Mountain Centre, Garhwal, and Everest, where he had joined in the hunt for the Abominable Snowman and then trekked over to join his brother, who was with Kempe's Kangchenjunga party last year.

NEIL MATHER, 28, Manchester textile technologist, had qualified himself pre-eminently for the ice-work of the Yalung Face by his achievements on the great Alpine snow and ice climbs. Unlike many of the modern school of English climbers, he was an enthusiastic walker and regaled us with stories of seventy-mile winter-weekend jaunts over the Pennine fells. This was his first Himalayan season.

TOM MCKINNON, Glasgow pharmacist and the only Scotsman. At 42, he was the oldest in the party, but his age merely reflected his greater stamina and experience. Never guilty of a hasty decision, he was a strong goer and had a long record of climbing and exploration at Himalayan heights—heights which the concurrent Merseyside Expedition were going to reduce substantially in their survey work. He co-ordinated the still photography, and would spend agonizing minutes pondering over the combination of cameras, lenses and filters with which he finally captured some fleeting scene of cloud and colour.

TONY STREATHER, 29, Regular Army captain, has had a remarkable mountaineering career. While serving with Pakistan's North-west Frontier Force he accompanied the Norwegian Tirich Mir Expedition as transport officer. Conscientiously, he went right to the summit wearing, as he told us laughingly, a golfing jacket, without an ice-axe and carrying a twelve-pound bedding roll. His second climb, in a similar rôle, was with the Americans to K2 in 1953. Again he went to over 25,000 ft. and was a great asset during the terrible storm and unlucky accident. Kangchenjunga was his third big climb. Once more his knowledge of Hindustani and his proved ability to go high were of tremendous value. The expedition's coolie train was his big responsibility.

I was 26, and since the Everest Expedition had climbed on Rakaposhi. With some experience of messing during Army service, I took charge of the food. I was popular at first, but, as there were few villages *en route*, after some months the craving for fresh meat, eggs, fruit and vegetables became too strong. I was constantly reminded that, 'Just in case you're getting swollen-headed, Band, the grub's b—— awful.'

The duties of the leader of a serious expedition have always struck me as being particularly onerous. Not only must he plan and organize down to the very last detail, he must make decisions which, if wrong, may mean death. He may have to drive himself to his physical limits so that others will succeed by his example. And throughout, he must remain unruffled and sympathetic in the most adverse conditions on the mountain, while satisfying a sponsoring committee back at home. In addition, Charles Evans found time to do all the ciné filming, hold the expedition's purse-strings, and write regular despatches to *The Times*. He is 36, and a Liverpool surgeon.

We were very fortunate in our choice of Sherpas and in our relations with them. This was largely due to Charles' great knowledge of and close friendship with them gained during his many trips alone in their company. He chose as sirdar, his old retainer, Dawa Tensing, who was now about 45 years old but still very strong. (He is unrelated to Tenzing Norkay, G.M.) The Swiss gave Dawa the title of 'King of the Sherpas' because of his natural dignified bearing and fine character. He also has tremendous stamina: he went twice to the South Col on Everest in 1953. Once he was climbing a small snow peak with Shipton, Gregory and Evans, but kept going too fast. To slow him down they put him in front to break the trail. Still he went too fast. So they piled their rucksacks on him, but even then he was a good match for them.

Dawa was asked to bring some thirty Sherpas with him from Sola Khumbu. Sixteen were expected to go high on the mountain, the rest up to about 22,000 ft., and all were equipped accordingly. He chose Annullu (who was first with Noyce on the South Col in 1953) to be his deputy.

In addition, the expedition would require some three hundred coolies for the approach march. These would be engaged in Darjeeling, which we planned to leave in the middle of March.

PREPARATIONS AND EQUIPMENT

Our equipment came from many sources, and was developed for us by that same great army of helpers behind the scenes who made the

ascent of Everest possible. Much of it was the same equipment—our windproof clothing, for example, and our eiderdown jackets—but much of it had been modified since Everest. On the basis of our experience there, we got a high-altitude boot made on the same principle, but with less insulation. The result was a smaller, neater boot, with a closer fitting which was better suited to difficult climbing. On snow, it was covered by a canvas overboot. One's normal crampons still fitted over this combination, and the risk of frostbitten feet was almost negligible. These boots were used all the way from Base Camp to the top.

After Everest, the search for a lighter oxygen cylinder and a less clumsy oxygen set had continued. In both fields, the makers had made advances, and the result was an unqualified success. Oxygen has contributed more than any other single item in the climber's apparatus to recent high-climbing successes, and, however much it complicates the porter problem (about three-fifths of the weight carried to any high camp consists of oxygen gear), it is worth its weight in loads. It made Everest possible; it made the final stages of Kangchenjunga swift and more sure, and it played a significant part in this year's astonishing French triumph on Makalu, when Jean Franco succeeded in getting nine of his expedition to the summit.

We relied on open-circuit sets, although two closed-circuit sets were taken for further trials and used on the first lightning reconnaissance to the Great Shelf. With one 1,600-litre cylinder, the former now weighed 24 lb. as against 30 lb. for a set of similar capacity on Everest in 1953. Above 22,000 ft. we used (during the assaults) an open-circuit set while climbing, and a simple lightweight mask for breathing the gas during sleep. As a result we slept well and woke refreshed, and during the day were able to make good distances (about 1,700 ft.) between camps. Altogether, twelve men were to reach 26,900 ft., the site of the highest camp, number VI.

Perhaps the greatest change was in the food. While we retained the Everest 'Compo' pack—with much greater variety—for low-altitude use, we discarded the small vacuum-packed man-day ration for high altitudes, preferring to take our food in small bulk—a ten-man-day pack. In this way jaded appetites could be tempted by a greater variety of foods without increasing the total weight, and the man who likes tongue and hates salmon can eat all the tongue (while his friend eats the salmon), and is not forced to eat small amounts of each, a practice which on a mountain usually results in his eating the small bit he likes and throwing the other away. 'A pickled walnut in the belly is worth a pound of pemmican down a crevasse.' Although well below the pre-war Everest standards, our catering was sybaritic

in comparison with Polar diets. But where the porter problem is not too severe, good food pays dividends by keeping the whole party fit, and Sherpas soon finish off any surplus, so that nothing is wasted. We took four months' Sahib's food and were only away three, but there was very little left at the end. However, as soon as the porters are left behind and the Sahibs have to carry their own food, I'm all for a light diet.

THE JOURNEY TO THE MOUNTAIN

Our many friends and well-wishers gave us a grand send-off when we sailed from Liverpool on February 12. The sea voyage gave us a fine opportunity to become well acquainted, and every day at noon, Streather, sitting stripped to the waist and cross-legged on his bunk like a Hindu guru, instructed us in Hindustani. It rapidly became obvious from the old hands that a little knowledge can be made to go a long way and our teacher soon found the sort of phrase that was most easily remembered.

Hardie and McKinnon chased our six tons of luggage across India, while the rest of us had a smooth journey to Darjeeling, where we became the very privileged guests of Mr. and Mrs. Henderson at Rungneet. Their bungalow is perched among the tea gardens on the side of a steep ridge, one mile north of Darjeeling. From the lawn in front of the house, when it was clear, we could look over the foothills to our mountain, forty-six miles away.

More than any other of the great peaks, Kangchenjunga is open to public view, and no one who has seen it from Darjeeling can forget it. Rosy at dawn, brilliant and remote in sunshine, cold and repellent in shadow, it seems to float above the haze and darkness of the valleys between, its great mass filling the north-western horizon.

Europeans are not alone in admiring it, for the devout Sikkimese, in whose country the whole East Face lies, accord it the reverence given to a god, and to them we owe its name, Kang-chen-dzö-nga, meaning 'The Five Sacred Treasuries of the Snows.' In their view, any attempt to climb the mountain, even from the Nepalese side, would be a form of sacrilege, so it was necessary for Charles Evans to make a special journey to Gangtok to discuss the problem with the Dewan (their 'Prime Minister'), representing the Sikkim Durbar. His friendly and understanding mediation resulted in permission for us to continue with our plans, provided that we pledged ourselves to observe two conditions: not to go beyond the point on the mountain at which we were assured of a route to the top, and not, however high our reconnaissance might take us, to desecrate the immediate neighbourhood of the summit. It was a happy solution, to which we, as

mountaineers, were glad to agree, and one which promised better for our future friendship than a stiff ungenerous attitude on either side would have done.

Back at Rungneet, all was furious activity. Streather had arrived first to meet the Sherpas and recruit porters. Now crates were being broken down into coolie loads, and the croquet lawn was covered with boxes and bags laid out in neat rows, each box made up with a small green bag of *tsampa* to exactly sixty pounds. In the garage John Clegg was medically examining the Sherpas. Those who were still awaiting their turn outside peered nervously through cracks in the doors to see what was going to happen to them. Considering their reputation, John was impressed by their relatively poor physiques.

On March 14 we left Darjeeling—a convoy of dilapidated trucks filled to bursting with baggage and piled high with chattering coolies. We were bound for Mane Bhanjyiang, a sixteen-mile journey to the last big village at the foot of the Singalila Ridge. That same afternoon we toiled up to Tonglu at 10,000 ft., the first of the three Government rest-houses on the crest of the ridge. Altogether we had needed 319 porters—about half of our loads were food—so we split into two columns, and one-third of our number, looked after by Streather, McKinnon and Annullu, travelled a day behind the main party.

Since we did not have permission to enter Sikkim, our approach march was a devious one over a hundred miles long which would take us in about ten days to the snout of the Yalung Glacier. So early in the year, it was important to avoid any high passes which might still be blocked by the winter snow, so, on the recommendation of last year's expedition, we followed the Singalila Ridge past Sandakphu to Phalut and then plunged into the steep jungly valleys of Nepal. The ridge divides Nepal from Sikkim, and, undulating between 10,000 and 15,000 ft., it runs northwards almost to Kangchenjunga. So on the return journey in June, it would be better to cross the high passes at its head and follow the crest back throughout its length, thereby avoiding the leech-infested valleys during the monsoon.

A sudden hailstorm surprised us on our second day just as we were passing a sad-looking hamlet named Black Pool. Soon we were sheltering and warming our chilled bodies with tots of *rakshi*. The storm cleared the air, for at Sandakphu we had a fine dawn view of Kangchenjunga and a momentary glimpse of Makalu, Lhotse and Everest. At Phalut, the rear party were caught in a fierce thunderstorm, after which they had an even finer view with the whole range seeming close at hand in a cloudless sky. So far the ridge was broad and the track wound over rolling downland. 'At any moment,' said Charles, 'we might have surprised a party of picnickers from

Guildford.' But the scenery changed abruptly next morning when we descended 7,000 ft. before breakfast and came to Chyangthapu. The next few days' march, passing through intensely cultivated, terraced and shadeless Nepal, was enlivened by the unfamiliar birds: yellow and scarlet minivets, drongos, redstarts, tree pies and bul-buls. We woke each day before dawn and marched early in the cool of the morning.

We now began to have coolie trouble. Apparently some of the Darjeeling men we had pressed into service—for the generous 'union' wage of four rupees a day—were quite unused to carrying loads; one, indeed, had never worked as anything but a garage hand, and the sudden change must have been a startling experience for him. Our policy, when coolies left us, was to stack their loads and ask the headman of the village to send word round that coolies were wanted next day. In this way, when the rear party arrived, Streather was always able to find and persuade men to bring along what we had left behind.

At Khebang our troubles were forgotten when we were fêted by the whole village. As we passed under arches of flowers, garlands were thrown about our necks. School children sang for us and we signed their visitors' book. High above us was the pass into the Yalung Valley. There was a long trudge to it, up a ridge where recently there had been a forest fire and where now all was blackened and dead, save here and there a single rhododendron which had survived and defiantly threw out a great blaze of scarlet. On the other side was thick jungle. We walked along soft tracks carpeted with dead leaves and bordered by rhododendrons in full flower or by mossy glades resplendent with purple dew-petalled primula. We camped in the forest by a river and lit great fires. Close to us, squatting beneath a rock, was a ragged old coolie singing a tuneless lament. We asked Dawa to translate for us:

> 'The Sahibs are feasting like Rajahs over there.
> Here am I, all alone in my poor corner,
> But there's no baksheesh coming my way.'

The forest gradually gave way to the glacial outwash gravel. We continued up the ablation valley on the western side, past Tseram, until we reached Ramser. Here, at 13,000 ft., we camped and paid off the coolies. We were on the site of a ruined monastery, but now only one tumbledown shack remained, with yaks grazing round about. Steep, scrub-covered hillside hemmed us in on one hand, and the lateral moraine of the Yalung Glacier on the other. Up the valley

we could see the gleaming snows of Ratong and Kabru. This would be an ideal base for our programme of acclimatization.

ACCLIMATIZATION

Three tasks demanded our immediate attention. We had to arrange for supplies of Sherpa food—*atta* and *tsampa*—to be sent over from the nearest village, Ghunza, two days' march away. Secondly, the coolie-lift from Ramser to our future Base Camp at the foot of Kempe's Rock Buttress had to be organized. Thirdly, with the aid of his theodolite, Hardie wanted to measure the heights of the salient features on our proposed route: the top of the Rock Buttress, the bottom of the Upper Ice-fall, the limits of the Great Shelf, and the altitude of the West Col. In addition, we planned to fit in as many climbs as possible on smaller peaks to accustom our lungs and limbs to high altitudes.

Jackson, Mather and I went with three Sherpas by way of the Mirgin La and Sinon La to Ghunza. Snow began falling as we arrived, so we made straight for the headman's black, smoky living-room. Out came buttered tea, boiled potatoes, and our cigarettes, in return. As the party warmed up, *chang* pots were filled. These are wooden brass-bound cylinders containing a mush of fermented cereal, mostly millet seed, to which hot water is added. The drink is sucked up through a thin bamboo tube passed through a hole in the lid. Conscious of the Sahib's love of cleanliness, the hostess sluiced the bamboos vigorously with water, then dried them by drawing them through her armpit.

When our mission was accomplished we returned over the Lapsong La, stopping on our way to explore the Yamatari Glacier and being rewarded by magnificent views of the precipitous south face of Jannu—a peak to rival the Muztagh Tower in sheer impregnability.

Meanwhile, the work of carrying loads up the bleak and broken glacier, a four-day journey through Moraine Camp, Crack Camp, Corner Camp to Base Camp, was greatly hampered by snowfall and unusually severe weather for this time of year. The route to Corner Camp, which had been carefully prospected, ran mostly along the moraines or across the debris-smothered surface of the glacier itself. 'It was my idea of hell,' said John Clegg, 'and deadly dull into the bargain. You were walking on sharp-edged boulders that kept on slipping from under you, up and down the whole time, and feeling that you were getting nowhere.' One morning at Corner, the camp was lashed by a fearful wind. The big Dome tent, weighing 80-lb., was blown, metal framework and all, for more than 200 yards, leaving no

trace on the ground between. Two Sherpas who were sleeping beneath the Dome peered out of their bags, decided that the baleful sky above was not what they wanted to see, and withdrew, closing their bags over their heads again. Dawa Tensing summed up the situation with an expressive grimace of distaste, saying: 'They are not good, the gods of Kangchenjunga.'

The results of Hardie's survey gave us another slight shock. Kempe's party had considered the top of the Rock Buttress—the highest point they had reached—to be about 21,000 ft. Now Hardie said it was only 19,000 ft.! This gave us another 2,000 ft. of virgin ground to cover. About this time, too, there arrived some impressive air photographs taken for us a month ago by the Indian Air Force. They were not encouraging. The final ridge looked even worse than we had feared; a jagged knife-edge with a clump of pinnacles half-way and with tremendous cliffs on either side. It was all rather depressing. 'We might as well go back to Darjeeling straight away,' some of us joked. But we had braved the mountain very early in the year. If we carried on stubbornly, with the melting of the winter snows the track should become easier.

We all took turns in escorting the teams of porters, but relieved the monotony with an occasional climb. Hardie, Brown, Jackson and their three Sherpas had one excellent acclimatization trip. They set off to climb Koktang, 21,000 ft., a peak on the ridge south of Ratong and Kabru, but failing on this in poor weather through trying it with too few camps, they made up by ascending two twenty-thousanders to the south-east.

KANGCHENJUNGA

On Easter Sunday, I joined Charles at Corner Camp, where the Yalung Valley turns to the east. It was a dramatic place. Ranged in an enormous circle round about us was a fantastic array of peaks. On our left, the upthrust fang of Jannu was linked by a great white wave of ridge to Kangbachen—the rounded west peak of Kangchenjunga. This led to the rocky pyramid of the main summit, which from this viewpoint seemed scarcely higher than the southern peaks—a series of castellated towers. From the last of these the ridge swept down to form the Talung saddle and rose again into Talung peak itself and the massive whaleback of Kabru on our right. The majestic mountain faces were daubed with masses of hanging ice which discharged their debris into the high snow-basins feeding the great glacier curving round at our feet. And all the time the clouds raced across the summit ridges from west to east and the wind made a continuous far-off roar like that of a giant waterfall.

Directly before us lay the South-west Face of Kangchenjunga, which we had come so far to see—a series of contorted ice-falls and precipitous snow-slopes buttressed by steep walls of red-brown rock. The most prominent feature was the great shelf of ice stretching across it at 24,000 ft. Above the shelf a narrow steep gangway of snow led towards the west ridge, in the direction of the top. Below the shelf, a great ice-fall flowed down to the west. It was in two parts, the Upper Ice-fall, smooth walls of glistening ice alternating with shelving snow-covered ledges, in all 3,500 ft. high, and the Lower Ice-fall, a jumble of extremely shattered and active blocks riven by enormous crevasses, in all 2,000 ft. high.

The 1954 party climbed Kempe's Rock Buttress on the east side of the Lower Ice-fall and thought that from there one might climb the remaining 600 ft. of the Lower Ice-fall, and continue up the Upper Ice-fall to the Great Shelf, and thence by way of the snow gangway, reach the west ridge and so to the top. It was a complicated route, and at the time we had little faith in it, for the avalanche dangers, let alone the technical difficulties, might make it totally unsafe or impossible. And could we find safe sites for our permanent camps?

KEMPE'S ROCK BUTTRESS AND THE LOWER ICE-FALL

Our immediate interest was the route to the proposed Base Camp, near the foot of the Lower Ice-fall. Evans, McKinnon, Streather, Mather and three Sherpas had put in a lot of work on this. The problem was to keep away from the left bank of the glacier, which was threatened by avalanches from Talung peak, and to find a way through the broken ice and maze of crevasses in its centre, which always tended to force one to the Talung side. It was rather like the lowest part of the Khumbu Ice-fall on Everest, and one was roped up for half the journey. It was certainly the most difficult approach to any base camp that I have ever had. But as the weeks went by, the route was improved so much until, as Jackson said, 'You could wheel a pram along it.'

Evans, our two Sherpas and I were the first to occupy Base Camp on April 12. As it snowed continuously next day, I was able to spend the first twenty-four hours ticking off each avalanche on the tent frame with a pencil stub. At the end of the day forty-eight ticks were there, and since I had been asleep for a third of the time, this gave a frequency of one avalanche every twenty minutes. Our camp was carefully sited in a shallow depression protected by two slight moraine ridges, but once, later on, thousands of tons of ice broke off

a hanging glacier on the Talung face and a gigantic cloud of pulverized ice enveloped us. When it finally subsided two minutes later, our tents looked as if they had been in a snowstorm.

At our first attempt on the Rock Buttress, because of the snow, we could hardly get two feet off the ground. The gods were still against us. Humiliated, we retreated to Corner Camp. Three days later Hardie, our two Sherpas and I tried again. We fixed 400 ft. of rope on the steeper parts and pitched our tents on the site of last year's camp at the top of the buttress. We had always been mystified as to why the previous party had not penetrated the ice-fall itself just here. Now that we could see it ourselves, we understood. The main mass of ice which rose in a sheer cliff was separated from the rock by a deep rift, precariously bridged in places by partly refrozen chunks of ice. 'Let's see how far we can get this evening,' said Hardie. I gulped, pretended I wasn't tired, and tied sheepishly on behind. We made about four pitches in two hours. I got absolutely frozen standing motionless belayed in the shade beneath a kind of gigantic crystal-blue chandelier of ice with tiny caverns and tunnels running through it. Even though I was lashed to a rickety ice-piton, I didn't feel a bit safe. Norman was hacking away with incredible persistence and fashioning a five-yard horizontal traverse across the vertical cliff to less steep ground beyond.

We spent two days of the most exhilarating ice-climbing of our lives, trying to find a route through before Evans and Jackson came to join us. Charles thought I was kidding when I said that it made the Khumbu Ice-fall look like a children's playground, but he soon agreed. The chief problem was to find a way up out of a valley, whose upper wall, stretching across the ice-fall from side to side, was about fifty feet high, always sheer, frequently overhanging, and threatening to contribute at any moment to the blocks on the valley floor, among which we were standing. Eventually we succeeded, after about six hours, in climbing the wall at a point where it was only vertical and about forty feet high. The last fifteen feet was solved by artificial means. This was a new experience for Norman, and, on ice, it was for me too. Soon he was playing me from below, 'dangling,' as he put it, 'like a puppet on strings.' One moment, when I was perched thirty feet up on three crampon spikes, using both hands to insert a piton, I remember him shouting, 'Wow! Show this to the New Zealand Alpine Club. Put your other foot on something, George, for God's sake.' But there was more difficult ground ahead, and we knew already in our hearts that this ice-fall, unmistakably unstable, was not a place through which we could with any justification take our Sherpas. Were we to be defeated so soon?

THE NEW ROUTE

Fortunately, Hardie had already noticed an alternative possibility. Looking up to the left, we could see a small glacier cleaving the ice-fall's right-hand retaining rock wall. Beside the glacier a steep but smooth snow gully descended from the very crest of this Western Rock Buttress, as we called it, to near the top of the ice-fall. If we could but reach the crest of the buttress from the other side and descend the snow gully, we would almost by-pass the Lower Ice-fall. There was still hope. The change of route involved a tedious change of Base Camp to the foot of the Western Rock Buttress close by Pache's Grave at 18,100 ft. We found other relics of this ill-fated 1905 expedition, untouched for half a century: rusty kerosene tins and even an old champagne cork.

Charles was kind enough to allow Hardie and me to try and finish our task. On April 26 we pitched a new Camp I at 19,700 ft., two-thirds of the way up the west slope of the Western Rock Buttress. It was a snow-slope throughout, very steep in parts, and menaced in a few places by ice-cliffs, but the dangers of ice or surface snow avalanches seemed far less than the unpredictable terrors of the Lower Ice-fall. We left camp at 6.45 a.m. next morning before dawn. It was bitterly cold. Threatening grey clouds were creeping up the valley and only the tips of Jannu and Kabru were in the sun. Our tent was in a natural hollow just below a series of huge crevasses which had been invisible from lower down. We could avoid all but one, which was 20 ft. wide and 60 ft. deep, and bridged by a shaky arch of snow, an inverted arch which sagged in the middle. The far wall of the crevasse was sheer ice, and Hardie had to cut a foot-wide traversing ledge to the right for 15 ft., until the angle relented and it was possible to reach the steep snow-slopes above. Despite the 200 ft. of rope which was eventually fixed here, plus an aluminium ladder to strengthen the bridge, this obstacle was always very tricky for the Sherpas. They would shuffle uneasily along the ledge, muttering prayers as they stared down at the yawning greeny-blue depths into which their bulky loads were threatening to overbalance them.

On the slopes above, we couldn't help recalling that hereabouts, by starting their own avalanche, Pache and three porters had met their deaths. A heavy snowfall on these treacherous slopes could maroon any parties higher up the mountain for days on end. This actually happened to Evans and Brown. They tried to return to Base because of lack of food. In Joe's words: 'We started down and the snow was waist deep. The angle at the top was about forty degrees. I was leading downwards. Suddenly there was a cracking noise in the snow,

the usual thing before an avalanche occurs. I stopped. I think Charles hadn't heard this; he thought probably that I was tiring, so he decided to take the lead. As he was passing me, the weight of two of us on one point caused the snow to crack again, and a crack appeared in the snow that ran out for several yards in each direction and opened about two inches. We both stood there looking at one another for a few seconds, and then turned round and ran back up the way we had come, just regardless of the lack of oxygen.' I don't know what they had left to eat. Fortunately, their appetites were beginning to decrease with the altitude, but, simultaneously, food fads were developing. For one breakfast Joe chose Cheddar cheese laced with tomato ketchup, and a couple of Mars bars to follow. He held it for half an hour.

Hardie and I eventually reached the top of the Western Rock Buttress, or the 'Hump' as we christened it, crossed an awkward crevasse on the rounded crest, and found ourselves at the top of the snow gully, the key to our outflanking movement. It proved to be about 400 ft. high and at about forty degrees. During the easy descent, we could look down over the last hundred yards of the Lower Ice-fall and trace a route through its debris to our Mecca—the horizontal snow plateau beyond. As we wound in and out of the ice-blocks plastered with soft snow, we were in a blistering sun-trap. The air was still and muggy until, forcing our way up the final twenty-foot ice-wall in an hour's cutting, we emerged breathlessly on to the soft snow shelf. We had penetrated a new world. At last we were getting somewhere. There was plenty of room for an avalanche-free camp site—Camp II (20,400 ft.)—and above us rose the Upper Ice-fall, seeming more stable and less terrifying than we had expected. It was slightly rounded, so that the avalanches from the Great Shelf would not sweep it, but would be diverted on either side.

Next day we helped to install Charles and Joe at Camp II and returned very happily, feeling that at last we had earned a short rest at Base. We gorged ourselves on fresh yak steaks, and afterwards, lying snugly in bed beside the radio listening to the Hallé Orchestra playing Beethoven's Egmont Overture, I almost imagined myself back in the Free Trade Hall. It had snowed that afternoon as usual, but our daily met. report forecast still more Westerly Depressions with a deterioration in the weather on April 30.

The others had been busy stocking the original Base Camp and now began transferring everything to the new site—a dreary task—but some of them had enjoyed a little climbing on Talung peak (23,080 ft.). During a reconnaissance, Mather and McKinnon reached about 21,500 ft. after surmounting all the difficulties, but a storm

came, and now that all our tents were required on Kangchenjunga, a serious attempt had to be abandoned. Talung would be a nice peak for a small party some day.

THE BUILD-UP AND AN ADVANCE RECONNAISSANCE

As reconnaissance parties worked on the Upper Ice-fall and others improved the route to Camp II, we entered the 'build-up' phase of the climb. A 'low-level ferry' would carry stores from Base to Camp II, sleeping at Camp I on the way, and a 'high-level ferry' based on Camp II would relay up to our Advance Base, Camp III, at 21,800 ft. This camp was to be half-way up the Upper Ice-fall, safely situated beneath a great overhanging wall of ice, on a platform forty feet long by fifteen feet wide. Below, the ice-walls, rapidly becoming festooned with marker flags, ropes and rope ladders, fell towards Camp II.

Each carrying team consisted of six to nine Sherpas with one or two Sahibs: After one party had taken up bridging materials and food for Evans and Brown, who were pioneering the route to Camp III, the true carry began on May 1. Brown and McKinnon ran the H.A. ferry first of all, later to be relieved by Mather and Streather. The rest of us went in turn on the L.A. ferry. It became a monotonous task; days of mist, fresh snow and uncertain tracks alternating with others of fierce, enervating sunshine, soggy steps and balling crampons. An early start was the thing, and, as the route improved, the teams would return to Base sooner and sooner, until one even surprised us at our mid-morning coffee. The weather began to get better and we wondered whether the pre-monsoon lull was coming too early for us.

This phase continued for a fortnight until we had piled up the necessary ton and a half of stores required at Advance Base and above.

Friday, May 13, was a great day for our expedition. We still did not know if we could reach the Great Shelf, or get far enough up it to place a camp within striking distance of the summit. Evans decided to take Hardie with him on a lightning reconnaissance to find out. Above Camp III they wore closed-circuit oxygen apparatus. On the previous day, accompanied by Annullu and Urkien carrying loads, they had rapidly climbed to the top of the Upper Ice-fall and put Camp IV at 23,500 ft. But still a barrier of crevasses separated them from the Great Shelf. Could they find a way through? The morning was overcast. The west wind had blown hard all night, and the driven snow still spattered against the tent. Although they had slept on

oxygen, they woke feeling ill, their morale low. At nine o'clock they made a tentative start. Unable to see a clear line, they cut their way along a great whaleback of ice, and from the top saw that it took them past the worst crevasses. Some intricate route-finding and they were standing on the Great Shelf at last. The expedition's first objective was achieved. Now we could make plans for the summit ridge. They went on till noon, toiling up the snow-slopes towards the Gangway, until at 25,300 ft. they found a site for Camp V in the shelter of a vertical ice-cliff—higher now than man had ever been on Kangchenjunga. They had reached what was to us, on this mountain, the equivalent of the South Col on Everest. They returned. While Streather and Mather and their Sherpas began to stock Camp IV, the rest of us gathered to snatch a rest at Base Camp.

PREPARATIONS FOR THE ASSAULT

There was an air of expectancy about the camp as we awaited Charles' arrival. We knew that he would be allotting each of us a vital task during the assault. Since we were all fit, every one must secretly have longed to be chosen for a summit bid, but ready at the same time to take on any job, however unspectacular. Charles came in while we were lunching and, with a mug of tea in his hand, quite suddenly, without any preliminaries, told us his plans. Tom McKinnon and John Jackson would lead Sherpa teams carrying vital stores to Camp V. Then the first summit pair, Joe Brown and myself, with Charles, Neil Mather, Dawa Tensing, Ang Temba, Ang Noru and Tashi in support, would move up from camp to camp a day behind. Their supporting rôle was to put Camp VI—the last one—as high as possible near the top of the Gangway. To double our chances of success, Norman Hardie and Tony Streather would form a second assault team, supported by Urkien and Illa Tensing, and they would follow up a day behind us. On the upward journey, Sahibs would start using oxygen for climbing and sleeping above Camp III; the Sherpas only for the final carry above Camp V.

Tomorrow, May 15, Jackson and McKinnon were leaving, so we had a good supper together just in case it would be the last one: tomato soup, stewed steak, roast potatoes and peas, followed by pineapple and custard, and then Ovaltine. We opened the second and last bottle of rum and made Mummery's blood (rum and black treacle) and a hot lemon punch. Waving the empty bottle, Tom, with his matted red beard, heavy ribbed jersey and scarlet nightcap, resembled a jovial pirate plucked from the pages of 'Peter Pan'. I didn't sleep at all well that night.

[Royal Geographical Society and Alpine Club of Great Britain.

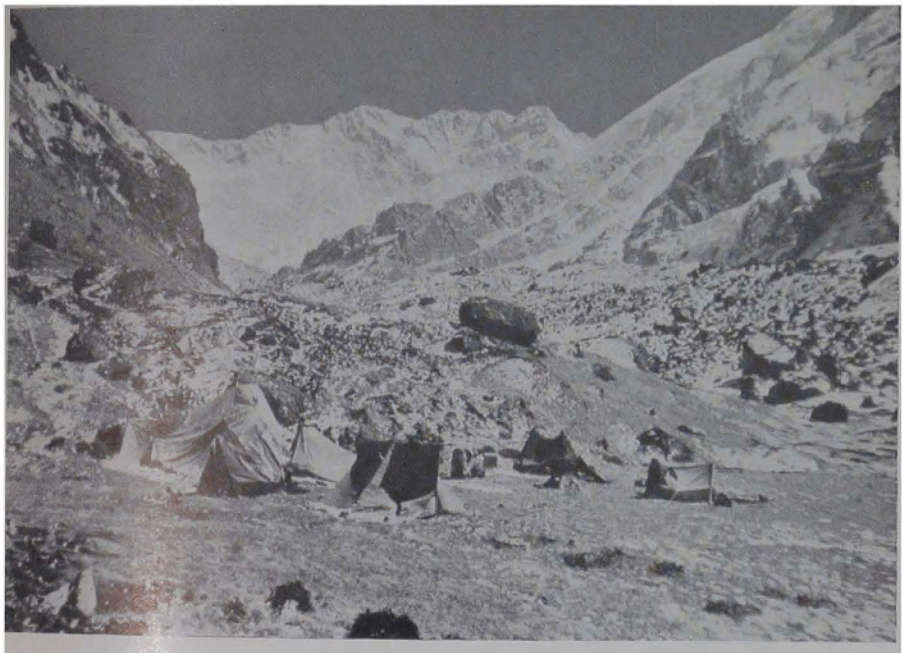
Kangchenjunga. West Peak from near the summit.

[Royal Geographical Society and Alpine Club of Great Britain.

Kangchenjunga. Camp IV (Evans and Streather in centre).

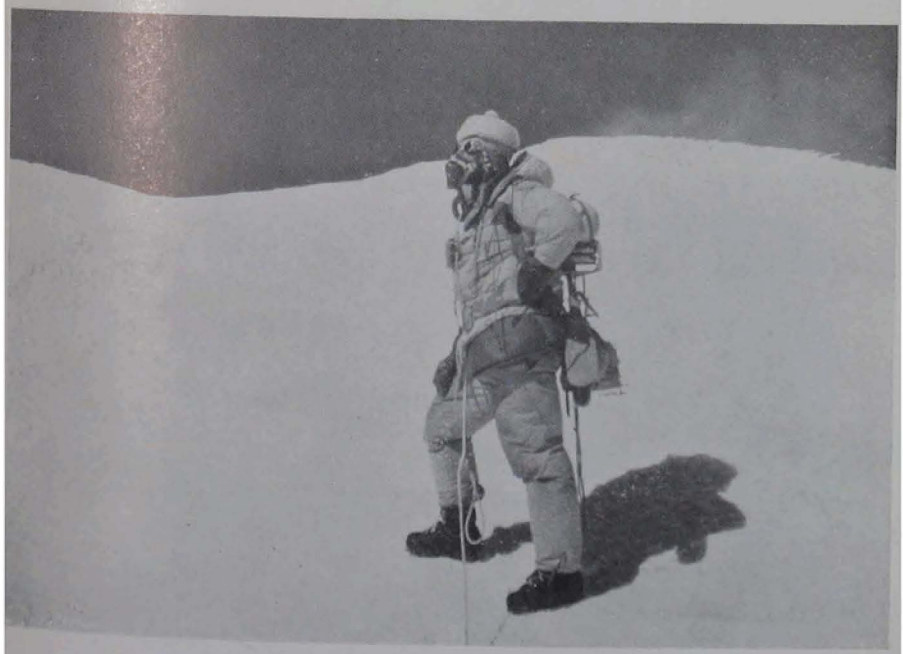
Kangchenjunga, S.W. face from slopes of Talung Peak, showing Upper Ice-fall and Great Shelf.

On the way to first Base Camp : looking towards Talung Saddle.



[*Royal Geographical Society and Alpine Club of Great Britain.*

Kangchenjunga. Moraine Camp.



[*Royal Geographical Society and Alpine Club of Great Britain.*

Kangchenjunga. George Band at summit.

Brown at top of Gangway during first assault.

Band on the rocks above the Gangway, first assault.

The first hitch was in stocking Camp V. When using oxygen, we found that any slight leak from the top of our masks made our goggles fog up badly. In order to see, one tended to push them up momentarily rather than bother to wipe them. On the journey up to Camp IV Jackson tried this once too often, became snow-blind, and spent a sleepless night in agony. 'I felt as if powdered glass had got under my eyelids,' he said. In the morning he could hardly see but, still in acute pain, he insisted on going and was roped between two Sherpas, whom he could encourage, even though he couldn't see where they were going. There was deep soft snow, and it took all day to get up the Great Shelf. McKinnon and five Sherpas reached Camp V and set up a tent. But four others, who were behind and nearing exhaustion, had to dump their loads—forty to forty-five pounds—on the steep slope below the camp, or risk being benighted. One, early in the day, had dropped his load into a crevasse and, all alone and overcome with shame, he'd stayed to recover it. Now far behind, he struggled along in the wake until the returning porters met him and forced him to abandon it.

We met them all at Camp IV, where we'd arrived to spend the night, and cheered them on their journey down to III. Jackson could not see well enough to go on down, and McKinnon, shepherding in the exhausted Pemi Dorje, arrived too late to do so. We made room for them gladly, pleased at the success of the carry, and thinking that tomorrow they would go down to III, we would go on to V, and Hardie and Streather would come up to IV.

That night there was an ominous change in the monotony of our weather forecast. Winds, as usual, would be forty to fifty knots, but they would be from the south-west instead of the customary north-west. We were warned that the monsoon might come in three days' time. If it did we were sunk.

When we woke in the night, which was often, we heard the perennial wind screaming across the barren site of our camp and the snow battering against the canvas. Had we looked out we would have seen that this was not merely driven snow but a raging blizzard. It lasted for sixty hours. Visibility was down to a few feet, and the new snow piled up on the windward side of the tents. No upward progress could be made. We had to sit and wait while our chances seemed like sand running away through our fingers. 'Another b—— white Christmas,' said Joe, thrusting his head out through the tent sleeve on the second day. That afternoon the storm moderated sufficiently for McKinnon, Jackson and Pemi Dorje to attempt the descent to III. Joe and I escorted them down the first and steepest part. Deep fresh snow banked up all the hollows,

and small avalanches were frequent. In the wind and cold, progress was very slow. We were relieved to hear by radio of their safe arrival below.

Early on the morning of the third day—May 22—Tashi, my own personal Sherpa, looked out and shouted excitedly, 'Sahib, it's clear. I can see all the way round from Darjeeling to Everest.' It was blowing as hard as ever, but the wind had veered slightly and we got ready to move. By ten o'clock we had pulled on our boots, drunk two mugs of tea, and rolled up our sleeping-bags. We were ready—but not quite. We spent the next half hour vainly prodding the deep snow round our tents, hunting for our ropes and cursing our stupidity in leaving them outside. At last we got going for Camp V; Charles and Joe in front, Neil and I behind, each with our Sherpas. It would be a four-hour journey we thought, but we didn't allow for struggling through the new snowdrifts, nor for the sudden furious gusts of wind in our faces. To save my energy for the future, Neil led most of the way. He sank in to mid-calf, for the tracks of the first party a few minutes ahead were already filled in. It was mid-afternoon before they reached the steep slope below the supply dump. All at once they realized that they were wading in the debris of a new snow avalanche. Ahead, what looked like a Primus stove was sticking out of the snow. They were too tired to assess the magnitude of the disaster. Between them and Camp V the ice was swept bare, where the stores had been, and here and there a food-box, a tent, an oxygen cylinder, stuck out of the snow. We had to recover all we could, add it to our loads, then, gasping for breath, trudge the last few yards to the camp site. They were the longest yards on the whole expedition. The sun here had set and it was desperately cold. My friends' faces were blue and pinched; icicles hung from their nostrils and beards. When Charles saw us arrive, he wondered if he too looked so like the dead. Every movement to dig or pull brought on a furious panting, and while we searched for buried belongings and tried to rig up our tents, the wind lashed our faces and the concealing snow mocked our efforts to find the necessities of life. This moment marked for our little party the nadir of our spirits. Even my air mattress chose this occasion to be punctured. At last we crawled thankfully inside the tents. There was no supper that night, but somehow the Sherpas lit a stove and produced mugs of hot tea. We thawed out our sleeping-bags, turned on our oxygen, and slept.

We were too tired next morning to make an early start, and this was essential if we were to get Camp VI as high as possible. So we put everything back a day and reorganized ourselves. By great

good fortune the afternoon was calm and sunny and we began for the first time to enjoy Camp V. Before us lay the snow-white table-top of Kabru; to the west was the twisted spire of Jannu, high as ourselves; all around and beyond were measureless acres of billowing cloud stretching away over the plains of India.

The Sherpas started melting snow at four-thirty in the morning, but it was nearly nine by the time we left in the bitter cold before the sun had reached the tents. Slowly, with an excitement that no weariness could dull, we worked our way to the foot of the Gangway. It sloped steeply in two directions, up towards the West Col, and down beneath our left hands towards the snow hollow under the Sickle—that conspicuous crescent of rock visible from Darjeeling. We had always wondered about the condition of the snow on the Gangway. We were lucky; it was good and firm. Three strokes with an ice-axe made a step. We forged steadily ahead. Charles, Neil Mather and Dawa Tensing led in turn on the first rope so that Joe and I could spare our energy. We were all—Sherpas and Sahibs—using oxygen and carrying loads up to forty pounds.

We paused to rest each hour. After four hours, I began to look around nervously for a camp site. One by one, we began to run out of oxygen, but strove step by step to gain all the height we could. At 2 p.m. we reached an outcrop of broken rocks and dropped our loads with one accord. 26,900 ft. But there was no place for a tent. The only thing to do was to hack a ledge out of the forty-five-degree snow-slope with our ice-axes. The exertion was beginning to prove too much for us when I noticed that Tashi's oxygen set was still pumping away. There was quite a lot left—he must have climbed with it switched off for an hour without realizing! I buckled it on, and, with the supply valve turned to the full, gained a final burst of energy. Even so, the ledge was too narrow, for we had hit rock at the back and the tent hung sadly over the outside edge. The others left with fervent handshakes, wishing us good luck, and Joe and I were left alone to decide who should sleep in the outside position. We drew matchsticks, and I lost!

TOWARD THE SUMMIT

While I got the sleeping oxygen ready, Joe lit the Primus and began melting snow for drinks. We were determined not to let ourselves get dehydrated. We made lemonade from crystals and then a mug of tea each, with lots of sugar. Supper consisted of asparagus soup from a packet, a tin of lambs' tongues with mashed

potatoes, and a nightcap of drinking chocolate. I think that's a better meal than most summit parties have had. Then we crawled into our sleeping-bags, keeping on every scrap of clothing—even our boots. We didn't want to risk ours getting frozen hard like Hillary's on Everest. I wore my boots solidly for three days and nights during the assault.

We shared a yellow 1,600-litre cylinder of oxygen between us. Being not quite full, it gave us nine hours' supply at one litre per minute each. I didn't sleep as well with it as usual. Perhaps it was the excitement. As we lay side by side, fragments of snow kept skittering down the slope and hitting the tent. Sometimes I thought it was a snowfall beginning, at others I wondered what might happen if a really large lump or a stone came. We had stayed roped up just in case and tied the middle of it round a spike of rock close to the tent. I prayed for fine weather tomorrow, otherwise we would not stand a chance. The others had done their utmost to get us as high as possible, so we must not let them down. An awful responsibility lay upon our shoulders. I cursed myself for working with my bare fingers just a moment too long that morning for now they were slightly frostbitten; the tips all blistered. I hoped they wouldn't handicap me next day.

The God of Kangchenjunga was kind to us, for May 25 dawned fine. We woke automatically when the oxygen was exhausted at five o'clock. We breakfasted on a couple of pints of tea and a biscuit or two and made off up the Gangway at 8.15, swerving out left to meet the sunshine. Near the top of the Gangway we had planned to turn off right at a string of snow patches and climb across the face, because we had seen earlier through binoculars that the west ridge itself was extremely broken and difficult.

Unfortunately, we had very little idea as to how far up the Gangway we really were and we turned off too early at the wrong snow patch. By the time we had realized our mistake and turned back, an hour and a half of precious time was lost. So we hurried on up the Gangway as fast as possible to try and make up time. Apart from the snow of the Gangway, most of the climbing would be on rock, so we had left our canvas overboots behind, and now, when we reached the first rocks, we took our crampons off.

We were aiming for a little subsidiary snow-ridge which would lead us back to the main west ridge beyond its worst difficulties. The approach to this snow-ridge was steep and we had to climb pitch by pitch for about three hundred feet. There was one tricky section where you had to swing round a corner on your hands. It might have ranked as 'difficult' at sea-level, and Joe safeguarded it with

a piton since I had a poor belay. Just above was an impressive ice-slope, sixty degrees in places, which required two pitches. There was a sensational rocky eyrie half-way; one seemed to be poised in mid-air thousands of feet above the Shelf and the glacier below.

Because of the time we were taking, every breath of oxygen was vital, so we cut down our supply to the minimum rate of two litres per minute, only increasing the flow when wrestling with some difficulty. This low rate seemed hardly sufficient for a person of my size and weight, and may have accounted partly for the fact that Joe was now definitely going better than I was. I had led at first, then we had a period leading through, and now Joe was in front. He offered to stay in the lead, and I was happy to agree.

We came out on to the crest of the snow-ridge and the summit pyramid was at last visible, culminating about 400 feet above. We had been climbing for over five hours without a rest, such was our feeling of urgency, so after cutting up the snow-ridge, we joined the west ridge and sank down in a little hollow behind and above the cluster of pinnacles. My throat was parched. We took off our oxygen masks and had a quick snack of lemonade, toffee and mint cake.

A strong breeze was blowing up the North-west Face, carrying flurries of snow over our heads. I looked over at the north ridge and then photographed our route ahead. The ridge was easier at first, and by keeping a little down on the right we would avoid the wind. But at the last a nose of rock reared up, sheer and smooth. We could have no idea what it held in store for us. It was 2 p.m. We only had a couple of hours' oxygen left.

'We ought to turn back by three o'clock, Joe,' I said, 'or we may have to spend the night out.'

'We've just got to reach the top before then,' he replied.

We carried on. The west and south peaks of Kangchenjunga were now well below us. We skirted below the rock nose, round a corner, and up a little gully. There above us the wall was broken by several vertical cracks about twenty feet high, with a slight overhang to finish. Joe was keen to try one. As he said later: 'I knew that at sea-level I could climb it quite easily, but at that height you don't know just how long your strength's going to last you if you hang by your arms for any length of time. You might just fall off in sheer exhaustion.' Turning his oxygen to the full six litres a minute and safeguarding his lead with a couple of running belays, he struggled and forced his way up. It was the hardest part of the whole climb; perhaps 'very difficult' had it been at

normal altitudes. From the top, I remember him shouting, 'George, we're there!'

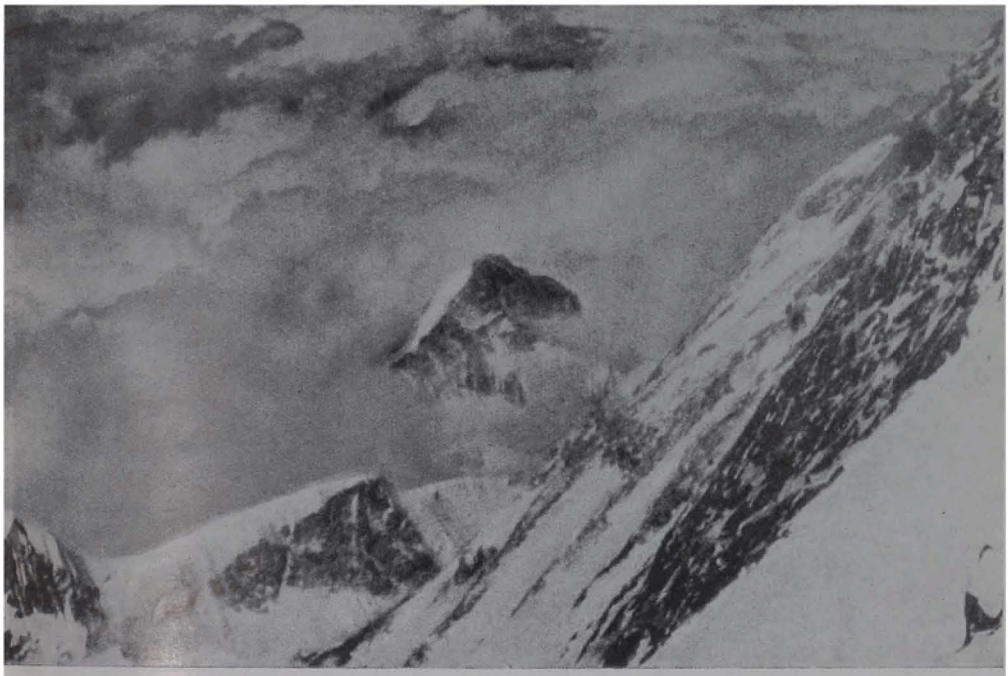
I joined him, with no more than a tight rope I'm glad to say, and there before us, some twenty feet away and five feet higher than the ground on which we stood, was the very top, formed by a gently sloping cone of snow. It was a quarter to three. We had come as far as we were allowed.

We took photographs of each other and of the view round about. There was a great sea of cloud at 20,000 feet, so only the highest mountains stood out like rocky islands with the waves lapping round about them. To the west, beyond the sharp ridge of Kangbachen, were the giants Makalu, Lhotse and Everest, eighty miles away, silhouetted deep blue against the faint horizon. Sikkim was hidden by both cloud and the concealing curve of the summit, but over to the north were the snow-streaked, drumlin-like hills of Tibet. Close at hand, we could just see the summit of the Bavarians' north-east spur and, through rents in the cloud, the grey snake of the Kangchenjunga Glacier beneath us, where Dyhrenfurth's party had tried in vain.

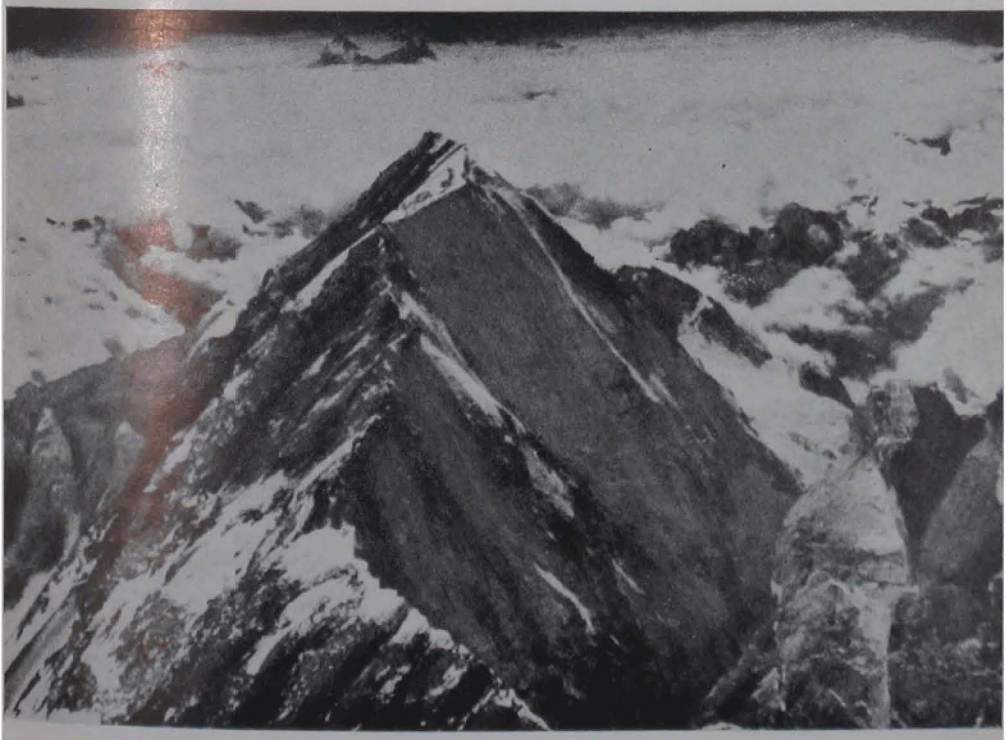
We turned to descend. After an hour, the oxygen finished and we discarded the sets and carried on down, feeling very weary. Once, when crossing a patch of unstable snow, a foothold suddenly broke. I slipped, rolled over on to my stomach and dug my axe-point into the snow to arrest myself. In a split second it was all over, but I had to lie there panting while Joe said: 'It makes me breathless just to watch you do that.'

Guided by shouts, we reached our tent as darkness fell. As planned, Hardie and Streather had arrived there ready for a second attempt in case we had failed. They had been waiting anxiously, as we should really have gone on down to sleep at Camp V, but now, in the dark, it was too dangerous. So the four of us squeezed into that tiny two-man tent, overlapping the narrow ledge, and they plied us generously with tea and soup, and more tea and more soup. I'd never felt so thirsty in my life before. There was no drawing lots for the outside position this time; they reckoned I knew all about it, so there I went. The sewing of the canvas would creak beneath me, and each time I thought: 'Supposing the stitching goes?'

Somehow we managed to pass the night. We insisted that Hardie and Streather use the two sleeping-bags and some oxygen because they still wanted to have a crack at the top. Joe was in agony through snow-blindness—again caused by removing fogged-up goggles—but fortunately we were still able to see ourselves down



Looking N.E. over the west ridge at the Bavarians' N.E. spur.



Kangbachen the west peak of Kangchenjunga, from near the summit. Makalu and Everest massifs in distance.

Talung Saddle, Talung Peak and Kabru from near the summit.

South Peak of Kangchenjunga from near the summit.

early next day while the other two repeated our ascent. It was May 26, the day of the General Election at home.

Hardie and Streather had brought plenty of oxygen, as they felt that shortage of it would be the first reason for failure on our part. So when they left Camp VI at 8.30 a.m., they carried a yellow (1,600 litres) and a blue (800 litres) cylinder each. They followed our route and, being able to use traces of our old steps in places, they made good speed. Incidentally, unlike us, they wore their crampons the whole time. But, as Streather says, they didn't have everything their own way:

'Hardie was leading and I shouted to him to stop, for I noticed that the windproof jacket on his frame was loose. He stopped, and swung the frame off his back. As he did so, his large oxygen cylinder slid out of its straps and went sliding down the mountain. The valve was knocked open, and I can still remember the cylinder hissing as it rushed down the face and out of sight.' So they had to share the remaining oxygen, Hardie carrying the yellow cylinder and leading, and Streather the two blue cylinders on a special one litre per minute flow rate.

At last they came to our vertical crack near the top. Joe and I had left a sling half-way up for them and were wondering how they would like it. They didn't, so they went on a few yards round the wall and there was a perfect little snow-ridge running easily up to the summit! They arrived at 12.15 p.m. and spent an hour there. Streather changed his cylinders round and left the exhausted one behind. Unfortunately, a misconnection rendered the second one useless, so he had to make the whole of the descent without oxygen, and they, too, ended by spending the night at Camp VI.

Charles and Dawa Tensing were waiting at Camp V when they came down. When Charles shouted, 'Have you been to the top?' there was no answer. It seemed a silly question; where else could they have been all that time? A little closer, Norman shouted back, 'Who won the Election?' Charles didn't think that one worth answering either.

By May 28 everyone was off the mountain. But our great jubilation over the double success of our Kangchenjunga Reconnaissance was marred by some very sad news on our return to Base Camp. One Sherpa, Pemi Dorje, had returned exhausted from the high carry. Three days later he seemed recovered, but suddenly developed the symptoms of cerebral thrombosis and, despite all that John Clegg could do, he had died on May 26—within the very hour that Hardie and Streather had reached the near-summit. So, to the Sherpas, it seemed that, after all, the God of Kangchenjunga

had demanded the sacrifice of one of the keenest and most likeable of their number. We buried him near the site of Pache's grave, under a rock carved by the other Sherpas with his name and the eternal Buddhist prayer, *Om mane padme hum*—'Hail to the Jewel in the Lotus.'

'His loss was the one cloud on our happiness; our happiness at finding, against all expectations, a route to the summit, and our happiness in becoming a team of firm friends—Sherpas and climbers —sharing in that success.'

(*By courtesy of the Editor, Alpine Journal.*)

FIRST ATTEMPT ON MAKALU, 1954

L. BRUCE MEYER, M.D., AND FRITZ LIPPMANN

'No large change' was invariably received over short-wave from All-India Radio giving the daily weather reports for the California Himalayan Expedition to Makalu, 27,790 feet. The fact that it was snowing, that the winds were blowing at 50 miles an hour throughout the assault month of May at the advanced base camp on the Southern Col, Camp III, at 21,500 feet, lent added force to the radio messages. Indeed the accuracy of the reports was amazing. The pre-monsoon lull, the spell of two weeks' good weather that was anxiously awaited, did not occur in 1954. Thus, the general trend of the weather, not unlike that of the 1936 Mount Everest Expedition, prevented a possible ascent on the first attempt.

Plans for Makalu were begun late in 1951 by the California Himalayan Committee, and over the ensuing two years the difficulties of forming such an expedition in America were overcome. The group was unique in that all of the members were well acquainted and had climbed with each other throughout the world. Two men had had previous experience in the Himalayas. As a team the ten men on the committee planned and worked together to make their dream a reality.

Being organized as a combined scientific and mountaineering expedition, the group received invaluable help from the Sierra Club of California, the American Alpine Club, the Himalayan Club, and from various scientific organizations for whom a definite research project was planned. This region had only been briefly visited once before by Shipton, Hillary, and Evans in 1952.

The group of ten men, who are listed at the conclusion of the article, was under the able leadership of William Siri, a medical physicist with the University of California. We were tremendously fortunate in having as sirdar, Ang Tharkey, on whose shoulders also fell the responsibility of transport officer. A better man could not be found as this able Sherpa took over his duties with zeal. As cook, Thondup demonstrated why he has gained his high reputation. He would reach camp first, set up the cook tent, and turn out a tasty, balanced meal topped by superb *crêpe Suzettes*. The work of Ang Tharkey and Thondu as a nucleus for a Sherpa team such as ours would make any expedition a success. Fourteen Sherpas made up the contingent, all of whom performed well.

The porter crew numbered 250 to carry our seven tons of food and equipment. From Namche Bazar to Jogbani Sherpa Tashi

had brought 150 men and women, some of whom rejoined the party on the return journey. Many of these Namche Bazar men, such as Ongdi, Jeda, and Chotare, were outstanding and will make excellent Sherpas for future expeditions.

Our problems in Calcutta were massive and trying but were eased by the invaluable assistance of Douglas Hecht of the American Consulate, Roy Eyres of Abbott Laboratories, and the Himalayan Club. Earlier, Mrs. Henderson of the Himalayan Club had assisted in all the arrangements for Sherpas and porters. Our scheduled stay of seven days dragged on for eleven, and final customs clearance hinged on a flight to New Delhi by Nello Pace to confer with U.S. Ambassador Allen. Customs officials finally relented and sealed our baggage, thus clearing us through to Nepal. During this stay in Calcutta the details of fuel from Burmah-Shell, medical oxygen from Indian Oxygen, and food and equipment supplements were arranged, together with the conversion of money. At this time we were not certain if paper money would be acceptable by the porters. Indian currency amounting to two porter loads was obtained, the bulk of the weight being in coin. We later learned that paper money was acceptable.

Through the kindness of H. Singhania of the Biratnagar Jute Mills we were given the use of the guest cottage during our stay in Jogbani. With the last loads reorganized and repacked, we departed on 14th March with three trucks to cross the Terai to Dharan, 30 miles away. It was on this day that we viewed Makalu for the first time at a distance of some 120 miles. We were not to see it again until we reached the upper Barun valley at the foot of the peak.

The trip was warm and dusty, but five hours' ride found us at the foothills of the Himalayas at Dharan where Bill Long, Larry Swan, and Bill Unsoeld, who had preceded us as an advance party, were waiting with Ang Tharkey, the Sherpas, and porters. There Ang Tharkey took over and loads were distributed and made ready for departure the next morning. It was not without misgivings that we watched our loads shouldered by the porters (each to shift for himself instead of forming a main camp) and carried off into the darkness of the village after we had so carefully guarded our equipment halfway around the world. Our concern was dispelled the next day as the loads reappeared from all corners of Dharan, and we set out for the first of many ridges. After a hot, dusty march over the first 3,000-foot ridge the Tamur river could be seen by late afternoon, and we camped on a small tributary where we bathed and awaited the last stragglers, some of whom arrived after dark.

With water scarce in these foothills, each of us guarded his canteen

up the steep switchbacks leading to the principal village of the province, Dhankuta. Hot cinnamon tea at a trailside stand was a welcome treat—at least for the first sip. In Dhankuta, with its cobblestone streets and neatly whitewashed houses, we witnessed the celebration of 'Holi' commemorating the coming of spring. The occasion is marked by coloured powder and water freely thrown on all participants, and we did not escape the shower. We camped on the hill beside the village in a forest of long-leaf pine, and the next morning paid our respects to the Bara Hakim, the Governor of the province. He was a very pleasant gentleman, spoke English well, and reviewed our prospective route. Beyond Dhankuta we continued to climb the ridge over terraced hillsides to an elevation of approximately 5,000 feet where we anticipated a view of the distant snow peaks, but a dense haze from burning brush obscured the scene. Our disappointment was relieved by the purchase of fresh oranges allegedly grown along the Arun river ahead. After camping on a terrace high on the ridge we dropped down to the Arun river, followed along its east bank, once again beset by the lowland heat, and took advantage of the slowed pace of the porters by swimming at frequent intervals. The tributaries of the Arun were easily forded at this season, and at the junction of the Sabhaya Khola we began again to ascend a ridge leading to Khandbari. Throughout this area the country appeared fertile and we looked forward to fresh produce on our return. Needless to say, we were surprised to hear Indian music over a short-wave radio coming from one of the dwellings we passed. Khandbari was a supply centre for our porters, and with their four rupees a day, rice and *tsampa* were added to their loads.

Three days were involved in travelling along the rain forest ridge crest before we again dropped down to the Arun at the Num Bridge crossing. During the last day we passed vantage points from whence we could look across the Arun far below to the Iswa and Kasuwa Kholas reaching far to the southern flanks of Chamlang. Our first rain washed us thoroughly during the night above Num and the sky cleared by the morning of 23rd March.

The bamboo suspension bridge at Num was crossed without difficulty or peril, though the previous night we had seen a mysterious light which Gombu and several other Sherpas interpreted as a spirit anticipating death. Our route then led to the village of Yetung from which we branched west up into the rhododendron forests and followed summer shepherds' trails until reaching an elevation of 11,000 feet. A stretch of primeval forest led us to the first snow. Naturally, those porters without footwear, numbering seventy, did not relish the going from there on. They had agreed, however, to go

on to the next camp where the men were paid, where loads would be redistributed and cached, to be relayed later. Though barefooted and hiking on snow, the Namche Bazar porters seemed to be bothered very little and actually enjoyed glissading on the slopes above camp. At this point our one pair of skis were given a trial run by Meyer to the great enjoyment of the Sherpas.

We now appreciated the wisdom of having our porter crew consisting mainly of Namche Bazar men and the amazing women and few children as the remainder of the route to the upper Barun lay over snow. It was not possible to follow the ridge on to Shipton's Pass because of deep snow. Instead, several days' reconnaissance revealed that we could get down to the Barun Gorge and that we could negotiate it. We were aided in this by the masses of avalanche snow that packed the gorge enabling us to pass safely over the torrent beneath. Where open water showed we took to the sidewalls of the gorge made passable by an intricate system of catwalks and bridges to get by the precipitous spots, and here Thondup, our cook, proved himself as a construction engineer. It was in this stretch that we lost the only load of the expedition, consisting of the non-essential 'butterball' candies. In retrospect, it is remarkable that more loads were not lost nor any injuries sustained, but fixed ropes and a personal escort service over the difficult pitches made the difference. As we ascended the gorge we passed below the route over which Shipton had proceeded in 1952. Farther on, the Barun valley broadened as we came among the snow peaks.

At the bend of the Barun below the Plateau glacier we camped across the valley from Peak VI, for which we bequeath the Tibetan translation *Tutse*. It presented an unclimbable face terraced with a formidable hanging glacier, but the south ridge offered a very steep snow climb. North and adjacent to Tutse soared the magnificent east peak of Chamlang. Between these two peaks a passable saddle led to the westerly valleys. At this point the Barun swung due north and as we turned the corner, Makalu appeared in its entirety for the first time since we sighted it from Jogbani.

On 5th April Base Camp was established on a grassy terrace on the lateral moraine at 15,500 feet, just a mile and a half from the southern precipice of Makalu. Some 12,000 feet directly above lay the summit of our peak. We had been out twenty-two days thus far, including a three-day delay in reconnoitring the lower Barun. The health of the party remained good and all had conditioned well.

Up to this point we had considered only the route on the north-west ridge, that seen from Mount Everest. Before us now lay another possibility, the south-east ridge. From this ridge a massive glacier

and ice-fall dropped down to the Barun in full view of Base Camp. At the head of the glacier, which we named the Topsendi Glacier, a snow col at 21,000 feet existed from whence the prospective route followed the ridge-line to the summit. It was generally concluded that a way could be found through the ice-fall and glacier, but from the col, the first 2,000 feet and several gendarmes along the ridge itself poised as problems. A horizontal portion of the ridge, the shoulder or arm of the Armchair, at 26,000 feet could not be clearly evaluated from Base Camp, though it did not appear difficult, and the summit block itself appeared climbable.

Accordingly, two reconnaissance parties were organized, one to swing up the Barun and view the north-west ridge and the second to view the south-east ridge from a vantage point farther to the east. The weather which had offered daily precipitation since our last crossing of the Arun, now cleared partially though strong winds were evident on the ridges above.

Most of our Namche Bazar porters, following the last relay, had by now been released, and they travelled up the Barun, crossed a series of three high passes, and dropped down to Namche. The going was rough and many sustained snow blindness and minor frostbite *en route*, though none seriously. Their fortitude in crossing these high passes with no special equipment is an astonishing characteristic of these hardy people.

On 11th April the reconnaissance parties departed. Siri, Houston, Long, and Steck with four Sherpas headed up the Barun. Dunmire, Lippmann, Meyer, and Unsoeld with Tashi, Kippa, and Pemba Norbu crossed the ridge on the east side of the Barun and made a glacier camp at 17,000 feet. A short trek by this party up the glacier the next day brought them to a pass and snow dome from which an extensive panorama of the south-east and east ridges of Makalu and the Tibetan highlands could be had. In cloud, Meyer, Unsoeld, and Tashi descended the far side of the pass on to the glacier, the apron of the Armchair, in hopes of viewing the upper reaches of Makalu. A second day was necessary for the desired view of the south-east ridge. With a 5 a.m. start, Dunmire and Unsoeld climbed the snow dome while Lippmann, Meyer, and Pemba Norbu went directly to the pass and obtained a clear view before the clouds moved in. The south-east face of Makalu looked forbidding with steep gullies and fluted snow slopes. This is the portion forming the base of the Armchair as seen from the Singalela Ridge above Darjeeling. The east ridge looked formidably steep on this side. We could now look directly at the south-east ridge along its axis from the Southern Col to the Black Gendarme. On the east there was a sheer drop off. The first 1,000

feet of the ridge-line was impossibly steep, but the south face of the ridge, though steep, was broken enough to offer the possibility of a route, though definitely a problem on which to carry loads. If once the south face above the col could be negotiated, the ridge-line then broadened with snow and was climbable to the Black Gendarme just below the shoulder. The gendarme itself appeared passable on the north. This information acquired, the party returned to Base Camp, fully aware of the difficulties of this route.

By 16th April the Barun reconnaissance party had returned. They had reached 20,000 feet on the Makalu glacier on the fourth day, from which point they were able to evaluate the climbing difficulties on the north-west ridge. These consisted of a 1,500-foot ice slope at forty degrees topped by 800 feet of steep angle rock before a party could reach the saddle at nearly 25,000 feet between Makalu I and II. Above the saddle there lay a 1,000-foot smooth rock step blocking access to the summit. This undoubtedly would have to be by-passed on the north face. This route was considered impractical for the following reasons: (1) exposure to possible avalanches on the ice slope, (2) exposure to the prevailing high north-west winds, (3) shortage of Sherpa carrying power from the already established Base Camp, and (4) the formidable rock step.

The results obtained from the two reconnaissances, devoid of encouragement as they were, we felt to be inconclusive. Of the two ridges, the south-east seemed to offer the best chance of going high on the mountain, with its major difficulty at the more reasonable altitude of 22,000 feet instead of the rock step on the north-west ridge at close to 27,000 feet. The south-east ridge, too, was easily accessible from Base Camp, and lay on the sheltered side of the mountain. It was therefore agreed to launch an immediate strong reconnaissance on this route.

The movement of men, supplies, and equipment began on 18th April, led by Steck and Unsoeld who established Camp I at 16,500 feet beside an emerald tarn beneath the tongue of the ice-fall. A more delightful camp-site could not have been anticipated, with the water temperature at 43 degrees Fahrenheit and well protected from the wind. Even a lone duck, presumably a teal, was observed for a few days on the lake.

The ice-fall was explored successfully by Steck and Unsoeld, then Houston and Lippmann. By 22nd April a route for laden men through the crevasses was found, and Camp II was established at 18,000 feet. On the following day Siri and Steck won through on a *tour de force* to the Southern Col at 21,000 feet after a seven-hour effort and returned to Camp II. A party consisting of Long, Meyer,

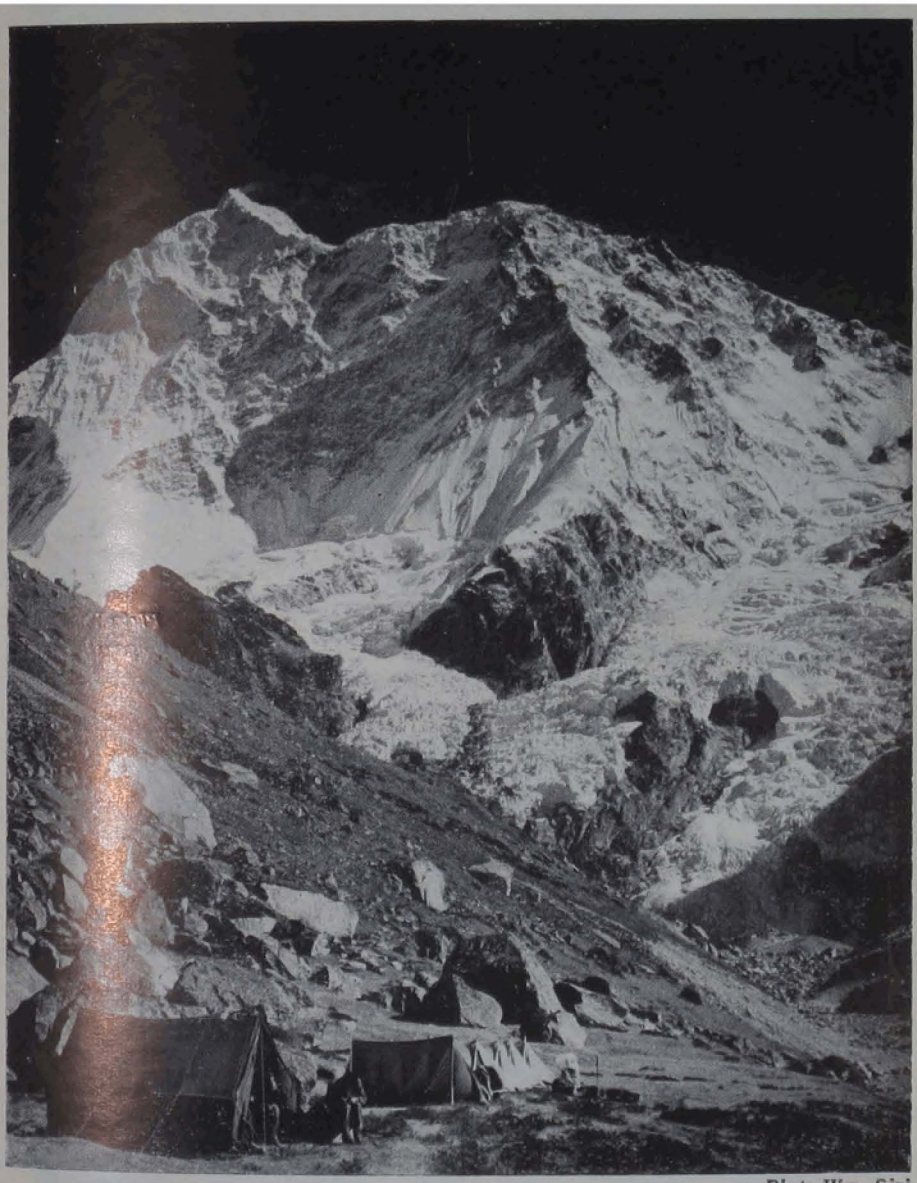


Photo Wm. Siri

California Himalayan Expedition, 1954. South face of Makalu from Barun Valley Base Camp.

Photo Wm. Siri

California Himalayan Expedition, 1954. Camp III on south-east ridge of Makalu looking south-west.

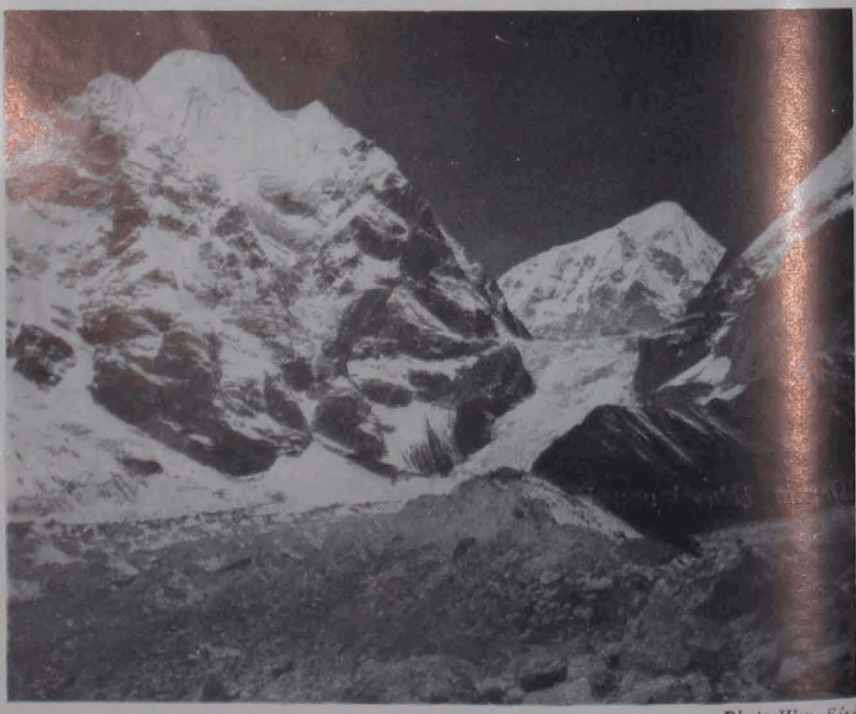


Photo Wm. Siri

California Himalayan Expedition, 1954. Barun Valley. Chamlang on left.

Steck, and Unsoeld with four Sherpas carried loads to the col on 26th April to establish Camp III, where Meyer and Unsoeld were left in occupation. This camp was placed fifty yards from the summit of the col but was still not appreciably protected from the wind. The following day these two men climbed easily to within a short distance of what was to be the site for Camp IV at 22,000 feet. On successive days they were followed in turn by Long and Steck, then Dunmire and Houston. The latter two teams failed to push higher owing to increased wind velocities, clouds and snow, which, together with the intense cold, made futile any attempt to go higher this early in the season. In order to spare needless exhaustion and possible frostbite, the party returned to Base on 1st May.

It was during this interval that we became acquainted with the New Zealand Expedition led by Sir Edmund Hillary. We thoroughly enjoyed their company in the Barun. We were saddened by the crevasse accident experienced by Brian Wilkins and Jim McFarlane, and rendered what assistance we could—material for a stretcher, medical supplies, and a Sherpa to supplement their carrying power. We also assisted later during Hillary's illness.

The second assault began on 5th May, with Houston, Unsoeld, and four Sherpas going from Base to Camp II, then on to III on the second day; however, widening of the upper crevasse necessitated a change in the route and forced a bivouac short of Camp III. The second party, Dunmire, Long, and four Sherpas departed from Base a day behind the first group. Starting at 6 a.m. on 8th May, Dunmire and Long launched the first attempt from Camp III to reach the ridge crest but returned to camp twelve hours later, having reached only the midpoint of the slope. On the following day Houston and Unsoeld, starting at 5 a.m., were destined to push the high point no higher after a similar twelve-hour day. During this time, Meyer, Siri, and Steck worked with the Sherpas between Camps I and III carrying loads for the 'build up', as we counted on Camp III to be the advanced base camp for the assault.

The winds at the col continued between 50 and 75 m.p.h., and for protection, though our Gerry double-walled tents stood up well, Long supervised the digging of a large snow cave. This was large enough to accommodate twelve men and served for equipment storage and for cooking. Above all, it provided a place to eat and rest totally free of the wind.

On 12th May Long and Unsoeld with Ang Phutar and Pemba Norbu placed a cache of equipment by cutting an ice-shelf at what was to be Camp IV, 22,000 feet. It was by now evident that the crest of the ridge could not be reached without an intervening camp.

The face above Camp III involved steep snow and rock pitches until meeting the ridge crest at 23,500 feet. The high winds, poor visibility, and continued daily snowstorms had blocked our progress so far, and with continued deterioration of the weather the entire team once again secured Camp III and returned to Base. All-India Radio was broadcasting the presence of the monsoon in the South Andaman Sea and predicting 'no large change' from the daily snow and wind in our area.

On 19th May, after a brief but welcome sojourn at Base, Steck, Unsoeld, Mingma Steri, and Wangdi again departed for the ice-fall. Long, Meyer, Gombu, Ang Temba, Pemba Norbu, and Kippa left Base on the 20th reaching Camp II in five hours; they went on to III the following day, the last clear one, and a view of Kangchenjunga was had above the clouds. On the 22nd this second party attempted to reach the site for Camp IV, but bad weather and continually sliding, waist-deep, snow forced their return to Camp III. That same day, Dunmire and Houston reached Camp III, and Unsoeld was obliged to ascend to Camp II because of illness.

On 23rd May Long and Meyer again attempted to establish Camp IV. By noon that day, two-thirds of the way to the camp, it was snowing heavily, and the snow was continually sliding. Three of the five Sherpas refused to go on and were sent back to Camp III. With difficulty, Camp IV was reached late in the afternoon, but under existing conditions, no site for a tent could be prepared. Any platform on the fifty degree slope would be covered immediately by sliding snow. The only solution was to dig a cave in the hard underlying snow. After several hours' work the cave was completed, but head room was limited. A deflecting barrier was made with snow blocks to ward off the sliding snow from the slopes above. This, however, was only partially successful, and three times during the night small avalanches completely closed the entrance and covered the two men sleeping nearest. Repeated efforts at digging out in the sub-zero weather at night were exhausting, and by morning, with no change in the weather, the party was not fit to go higher. Having at least prepared and equipped Camp IV, the party returned to Camp III.

At this point we were climbing against time with bad weather persisting. Several additional attempts to get beyond Camp IV were made by Long and Steck, and by Dunmire and Unsoeld. The first pair accompanied by two Sherpas attempted a rock rib leading somewhat to the left from Camp IV, up to the ridge, but were stopped after a day of high-angle rock climbing and were forced to rappel down, a new experience for Sherpas Gombu and Mingma Steri.

With time remaining for only one more attempt prior to the monsoon, Long, Unsoeld, Gombu, Mingma Steri, and Kippa departed from Camp IV on 1st June and were soon lost from view in the clouds. Anxious hours followed. On 2nd June a small figure was spotted on the crest of the ridge. They had won through to the ridge, in the face of 18 inches of fresh snow, and succeeded in setting up Camp V at 23,500 feet the night before. During a clearing in the clouds they obtained a view up the ridge and reported no difficulties, in fact, easy straightforward snow slopes as far as the Black Gendarme. Beyond this they could not see.

To the disappointment of all, it was time to descend. The weather report predicted the imminent arrival of the monsoon. The route between Camps III and V, which had been prepared with rappel pickets, ice and rock pitons, fixed ropes, and a section of rope ladder, was altogether too dangerous to risk with any additional snow. Our time had run out; any further effort was extremely unsafe. The descent from Camp V in deep snow was difficult and hazardous, but was made safe by the pitons strategically placed by Long and Unsoeld. All camps were evacuated of valuable equipment in the ensuing two days. Houston and Lippmann came up to Camp I with a fresh group of Sherpas to shoulder the loads for the remaining haul to Base.

At Base Camp, Pace, our physiologist, was particularly happy to continue his studies on the climbers. However, he had not been idle, having pursued the climbers to Camp II, and also hunted ram chikor widely with Ang Tharkey in the lower Barun to supplement meals. Swan, the biologist, meanwhile, had completed his collection of plants which had taken him to 20,000 feet in the upper Barun at the foot of Pethangtse, accompanied by Lippmann.

On 6th June Houston and Steck with Tashi, Pemba Norbu, and a small contingent of porters departed as an advance return party. They were followed by Swan and his botanizing party, who wished to collect in the Num Bridge area. On 8th June the main group was ready to start the march out. Some fifty Nepali porters had joined us from the villages along the Arun; in addition twelve Sherpas had come back over the passes from Namche Bazar. We retraced our steps down the Barun to the point where we climbed up toward Shipton's Pass. Shepherds were already grazing their flocks in the lower Barun pastures. In the glacial basin below the pass we turned east and crossed a higher pass at 14,000 feet which brought us to the ridge bordering the Barun on this south-west side. We followed the ridge crest along shepherd's trails until we picked up the inward route at about 11,000 feet. Leeches were encountered at about

12,000 feet and it rained continuously until we hit the Arun. From the point of meeting our inward route we followed the same trails, reaching Dharan in fourteen days from Base Camp.

The monsoon rains had swelled the rivers considerably, and the crossing of the Sabhaya Khola required a Tyrolean traverse method of getting the loads across as well as the porters. The Bara Hakim was very gracious on our return to Dhankuta, and gifts were exchanged.

On 21st June we arrived in Dharan, fourteen weeks from the day of our departure. We had completed a reconnaissance of Makalu and found a feasible route on its south-east ridge. We had carried out scientific investigations in the physiology of acclimatization and stress, accumulated data for a map of the lower and middle Barun, made an extensive collection of flora and fauna, gained experience with specialized types of mountaineering equipment, became more acquainted with mountaineers from other areas of the world, and gained an appreciation of the culture, people, and geography of Nepal. We were all grateful for the opportunity to participate in such an expedition and for the many helping hands extended to us.

Members of the Expedition:

William Siri, Leader
Nello Pace, Deputy Leader
William Dunmire
Richard Houston
Fritz Lippmann
William Long
L. Bruce Meyer, M.D.
Allen Steck
Lawrence Swan
William Unsoeld

Sherpas:

Ang Tharkey, Sirdar
Thondu, Cook
Tashi
Ang Temba
Nawang Gombu
Pemba Norbu
Mingma Steri
Ang Phutar

Kippa
Wangdi
Nima Tensing
Pemba Tensing
Chotare
Pasang Dortche

MAKALU—THE HAPPY MOUNTAIN

JEAN FRANCO

Adapted from the French narratives by the courtesy of the Editor of 'Alpinisme and La Montagne'. Translated by Alfred Gregory and adapted by the Editor.

LIKE happy people, happy mountains do not make a good story. A famous journalist was looking at some photographs of our expedition to Makalu, searching for some piquant detail that would attract the masses, in lieu of drama. His insistence forced me on to my last defences:—

'But at least there were—incidents?'

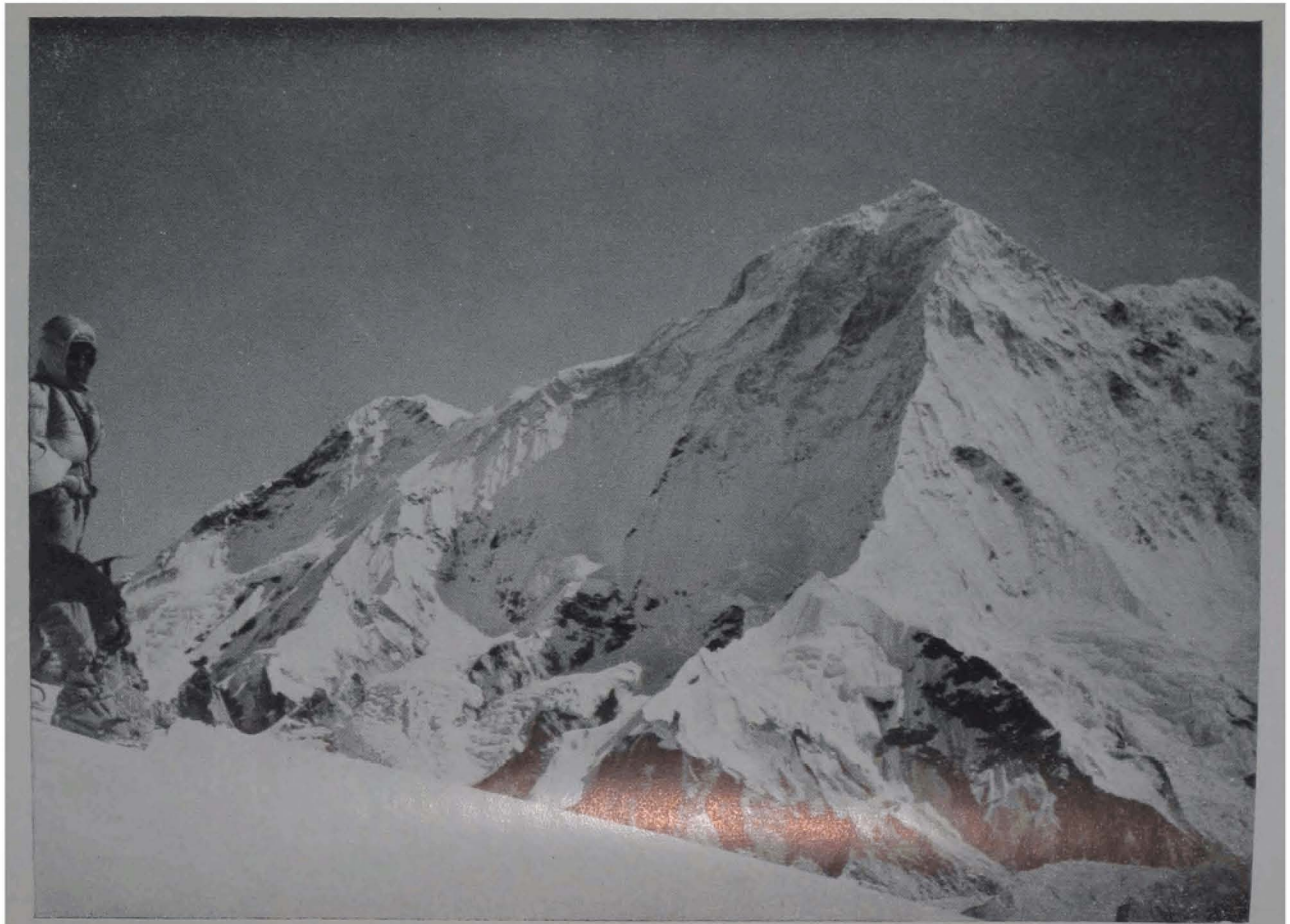
'I'm afraid not; no crevasses into which we fell, no avalanche that swept over the camp. At 8,000 metres it was like the summit of Mont Blanc. Nine of us reached the top; three successful attempts in three days; it was hardly a conquest. We didn't even get cold feet.'

'So then nothing happened?'

I had to agree; nothing happened. What I was not asked was, 'Why nothing happened?'—Now some months have passed. Though it is still too early to appreciate the details of our magnificent adventure, though our experiences were too brief, too rapid and too localized for generalization, Makalu loses its isolation, bit by bit. The salient factors of our success and the reasons which led to it, their place among the efforts of men to attain the highest peaks, are links in the chain made by climbers throughout the centuries. Fifty years of Himalayan expeditions and mountaineering led to Makalu.

In 1934, shortly before the first French expedition to the Himalaya permission had been given for an attempt on Makalu but this was later cancelled. For the next twenty years climbers followed other roads and the mountain remained 'the giant who sleeps for six months.'

It was at the end of 1953 that the French Ambassador in Delhi received, for the Federation Francaise de la Montagne, permission from the Nepalese Durbar to send an expedition to Makalu in the autumn of 1954, followed by a second in the spring of 1955. The first was to be a reconnaissance to study the approach and to test new material and equipment on which we had been working for some time. Maurice Herzog would have been the man to lead both parties, but, for reasons which are all to his honour, he refused.



By courtesy of the French Alpine Club

Makalu, 27,790 ft., west face ; Makalu II, 25,120 ft., on left.

North face of Makalu showing route with Camp VI in centre.

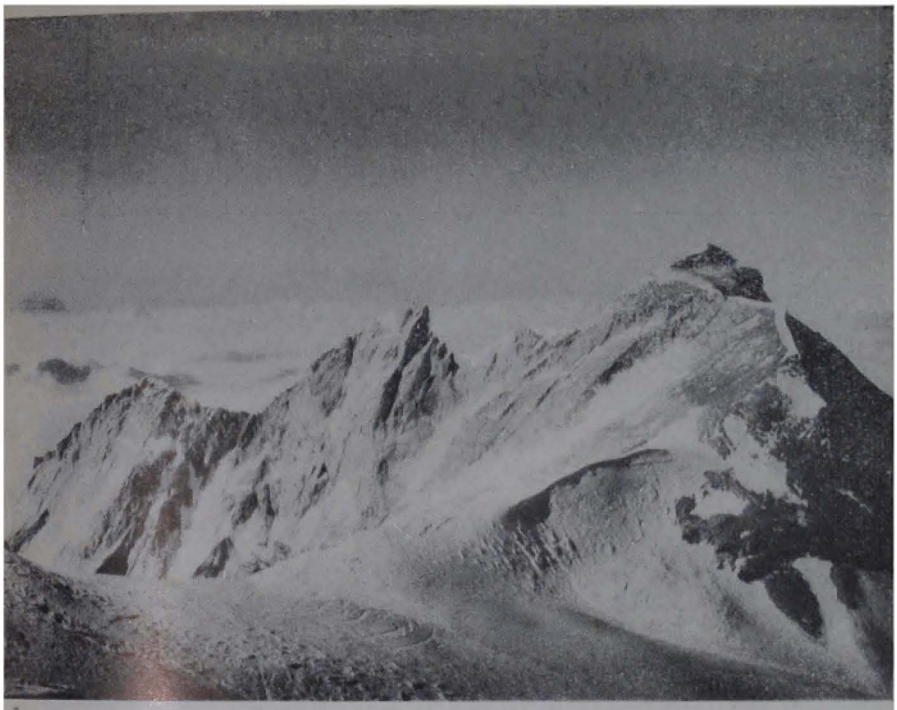
Lucien Devies, President of the F.F.M. and of our Himalayan Committee, was unable to accept the invitation to lead and again had to abandon the long cherished dream of his climbing life. They were the twin souls of the organization and when I was asked to take charge I accepted the more willingly because I knew they would always be at my side. And also because I could count on Jean Couzy and Lionel Terray, veterans of Annapurna, and on the celebrated Guido Magnone. Preparations were hurried on, consultations were made and experiments took place, both in Paris and at the Col du Midi. Jean Couzy, our oxygen specialist, was busy with a new model of bottle, lighter and with a variable flow rate. Lionel Terray dealt with food, a sphere in connection with which he inspired great confidence because of his big appetite. Dr. Jean Rivolier, of the French Polar expedition, was chosen as our doctor and began to plan for acclimatization and the use of oxygen. The team was completed by two of my personal friends, whose worth and great experience I knew—Pierre Larox and Jean Bouvier. While all this furious activity was going on at the Club Alpin Francais Makalu was twice visited, by the American party under Doctor Siri, and by Hillary's team in the course of their explorations in the Barun region. We learnt this when we got together at the foot of the Arun valley in August 1954. Our first contact was very hard, for the region was hostile, hot, wet and unhealthy, every stream a torrent, and forests infested with leeches. It took three weeks to reach the foot of our mountain. We put out of mind the south-east ridge, with its series of very steep steps which we likened to Grepon's pile one on another. And it seemed obvious why the Americans had been repulsed so quickly. The north-west sector appeared to be more favourable for it had been noted that there would be no serious obstacle to getting on to a glacier plateau at some 21,500 feet at the end of the north-west cirque and at the foot of the Makalu Col. Between the plateau and the Col the slopes are steep and avalanche prone. To minimize risk a longer route was necessary, but at about 23,500 feet a suspended balcony seemed just capable of supporting a camp. If the Col could be reached at, say, 24,600 feet the north-west ridge would be a possible ladder for Makalu itself, despite an enormous step of nearly 1,000 feet. We left base camp on 1st October, placed three camps to just below the plateau and a fourth on it. From there we forced the route as high as we could and on 15th October we were able to set up Camp V on Makalu Col. Having attained this first objective we felt we had wings and some were already contemplating an assault on Makalu itself. But at that date and at that height the cold is intense,

usually minus 30° centigrade and the wind often blew at 100 miles per hour. All attempts to get higher than Camp V were repulsed but two days of relative calm enabled us to make the first ascents both of Makalu II and of Chomo Lonzo, 7,797 m. Two important observations were made of the north face of Makalu. This showed a gigantic glacier giving a route relatively certain up to 8,100 metres, beyond which, although the slope steepened considerably, we were convinced that technical difficulties would not stop us.

We had sprung the trap of Makalu, namely this Col, wide and debonair in appearance, but swept by the bitterest winds and liable to become a death trap should a spell of bad weather be prolonged. So success would depend on holding the Col strongly and ensuring a route thereto safe and practicable in all conditions. It would be necessary to live above it as little as possible in order to maintain strength for the lightning assaults.

On our return to France at the end of November we reported to our friends and the Himalayan Committee began organizing at once for the assault in the spring of 1955. We planned to make our attempt on the summit from the 15th May so that we should have three weeks in front of us in case Makalu showed itself particularly unfavourable. We ourselves were to leave France at the beginning of March while the equipment and food were to arrive in Calcutta in the cargo ship *Lenzkerke* on the first day of that month. Our gear had proved excellent but certain new untried items surprised us. Two-piece nylon and wool underclothes had a queer electric-like effect on the skin and the super light weight high altitude trousers, perfectioned by Guido Magnone, which could only be fitted with special buttons by only one man in all France, never reached base camp. The oxygen had been ordered by cable from Nepal, as soon as we got down from the autumn reconnaissance and arrived safely, though somewhat late, because the *Lenzkerke* had decided to go to Rangoon first and then back to Calcutta, instead of vice versa. Certain changes in personnel had been made. A young surgeon from Lyon, Andre Lapras, had taken the place of Rivolier who could not get away. The scientific section was reinforced by Michel Latreille of Grenoble and the climbers were augmented by Andre Viallatte of the technical branch of the Air Force, and by Serge Coupe, a young guide from Champpery.

Although departure by air from Orly is attended with numerous complications those experienced on arrival in Calcutta, with 9 tons of material, personal equipment and baggage, were a nightmare. When you penetrate the immense offices of the Bengal Administration, which is the most serious in the world, you realize that all is lost



Chomo Lonzo 25,640 ft. from below Camp VI on Makalu.

Sirdar Gyaljen Norbhu traversing the face of the Makalu Col.

and your sole wish is to return to Paris immediately. At the last moment you find the right door to open and the miracle, the first of a series of miracles, without which no summit in the world would have been approached, has happened. Our special guardian angel was the French Vice-Consul Monsieur Batbedat who had the key to all doors and could pierce all mysteries. On 18th March we flew from Dum Dum to the Nepal frontier town of Biratnagar. A new innovation here was the recently established customs service of Nepal. Here the official demanded categorically to see all the contents of our 267 cases and sacks. These had been carefully sealed in Paris and had hitherto been preserved from inspection by prodigies of eloquence and persuasion. Formal refusal on our part, together with fantastic argument accompanied by tact induced the official to give way and two hours later the whole expedition was loaded into the oldest imaginable lorries.

Fifty kilometres further on the four lorries, smoking like steam engines, deposited the expedition at Dharan. Our Sherpas who had arrived a few days earlier were introduced by our Sirdar, Gyaljen Norbhu. Most of them were veterans of Everest, Annapurna, Nanga Parbat, K2 and even Kangchenjunga. The Sherpas do not engage themselves on an expedition. They attach themselves to you and once they are with you, you can take them to the end of the world; you will only get one reply: 'Yes, Sahib.' The Sherpas do not like carrying a load on the approach marches, as they are the aristocrats of the porters. And the management of a train of coolies is a source of worry. We had arranged for 80 porters from Darjeeling and 115 from Sola Khombu. The inevitable arguments about respective loads were settled by Gyaljen and Kinjock, the porter Sirdar from Sola Khombu, and the caravan left Dharan on 20th March. The Arun is a river as big as the Rhone and its valley forms most of the approach march to Makalu. To base camp it was about 90 miles as the crow flies but over 190 by the track through the forest and the maize fields. Now and then through the morning mist we could see on the horizon the white chain of Makalu and Chamlang. Meanwhile we were experiencing certain anxieties about our transport and our cargo of oxygen; I had left at Dharan Serge Coupe, with enough Sola Khombu porters, to bring on the oxygen by forced marches. The last marches at higher elevation were hard on the local porters who had only improvised shelter and some left us. But eventually we reached our base camp, in the desolate region of the high Barun, at the foot of Makalu, on 4th April.

Two days later Couzy and Coupe arrived with the oxygen and we spent several days installing ourselves as comfortably as we could

and organizing a shuttle service for fuel, etc., and, most essential, our postal teams who would do the round journey of some 420 miles between us and the nearest Indian post office, in 20 days.

Our plan was to reserve three weeks for acclimatization and for the final preparations and we fixed the date 5th May for the carry to Camp III. Refraining from expending our energies prematurely on the tempting higher peaks around us we trained and acclimatized to higher altitudes steadily and surely. The Sherpas under Gyaljen did great work carrying to Camp I. Two of the team made a 'third' ascent of Pethangtse, the geological party split into two groups, one making for Namche Bazar via Sedoa and the Iswa Khola, the other crossing the high Hongu Cols. They rejoined us in Calcutta.

The siege of Makalu now began in earnest. Couzy and Terray pushed on to Camp III where deep shelters were dug in the ice for tents, in order to ensure some degree of comfort in this storm-swept spot. This camp was completed by 7th May and nearly 3 tons of food and equipment had been carried there. Higher up the slopes steepen and the cliffs of the Makalu Col, covered last autumn with good hard snow, were now found to be mainly steep ice-covered rock. Our technique was to operate in successive teams, each with two sahibs with the requisite number of Sherpas, forcing the upper zones in waves. We had adapted the principle of never sleeping above about 23,000 feet, and after each attack descending as low as possible (even at times to Camp I), to recuperate. We kept in first class health and the mountain was yielding step by step. On 8th May Guido Magnone and I installed Camp IV, but were checked at about 24,000 feet by difficult rock. However, the succeeding party passed this obstacle and Makalu Col was reached on 9th May. During the next two days we placed 800 metres of fixed rope and stocked this camp.

All was now ready for the final assault. It was to Couzy and Terray that the honour fell of making the first strike towards the summit, after making a Camp VI at about 26,000 feet. Guido and I would follow 24 hours later to support, and if needed to instal a Camp VII. Should these two light attempts fail the remaining four sahibs were to try another assault a few days later. Our oxygen, our supplies, our equipment and the high fettle of the Sherpas would allow us to make four successive attempts. The sahibs were allowed oxygen day and night when above 23,500 feet, the Sherpas above 24,600 feet. As it turned out things went simply. We were blessed with perfect atmospheric conditions without a single high altitude cloud for

hundreds of kilometres around. Even on the summit ridge the wind dropped.

On the 14th Guido and I arrived at Camp V on the Col and scanned the higher terrain. We spotted three black dots on the rocks, descending very slowly. These were the three gallant Sherpas who had made the carry to Camp VI. They were completely done in and begged to be allowed to stay at the Col. I hardened my heart and refused, knowing that a night at Camp V would make their condition even worse. Not one of them had a smile left in him. We gave them oxygen, injections, hot drinks and food, put the rope on them and sent them down, not without anxiety, to Camp IV. Above Lionel and Jean had succeeded in putting up their bivouac in the seracs, Couzy sent down this message, 'Arrived here at 1500 hours, 23,400 feet, good spot, under an ice-wall. We are in good form steep above, but looks as if it will go. All goes well. Good luck. A demain.' That evening was the first on which the weather report predicted, without qualification, good weather all over the chain. What luck, and what a rendezvous!!

The 15th was the day of Makalu. While Guido and I, with five Sherpas, were traversing the great ice slopes leading up to the seracs we saw above two minute black specks traversing the high couloir up to the rib. It was 10 o'clock and Lionel and Jean would be at over 27,000 feet. At twelve o'clock we heard shouts, several times repeated, and they were shouts of victory. The Sherpas shouted for joy with us, repeating the three syllables of Makalu and lifting us up and embracing us; which at that height and with the narrow space of Camp VI seemed almost excessive. I told Gyaljen that we intended attempting the summit again next day and asked if he would like to join us. He accepted with joy. We told the Sherpas that our success on Makalu was mainly due to them, and that we were proud to have been associated with them. They simply smiled and shook our hands. These men of the Himalaya are extraordinary. Without them this Camp VI would not exist. And they had come here without other ambitions. When you look at a Sherpa at such heights he just continues with a smile at you. We heard steps in the snow. Our friends had returned and we rushed on to the terrace of the camp. 'Ainsi?'—'C'est ca'. One economizes words at 7,800 metres. We gave bowl after bowl of hot tea to Lionel and Jean. They went on drinking, completely dehydrated. 'Difficult?' 'No, as in the Alps. The route of the morning.' 'And the rib?' 'Steep, but no serious obstacle.' 'And the final ridge?' 'A delicate step to reach the summit, but the snow was good. The summit is like a pencil point.'

We ended the day in contentment on our perch situated between two enormous cliffs of ice, suspended in the seracs of the north face—half the Himalaya was below us, Makalu II and Chomo Lonzo were at our feet, Kangchenjunga so far away that one could easily mistake it for a monstrous cloud. Only Everest rose above the horizon. It was gold in the sunset. The shadows grew longer. A light breeze played with the snow, lifting it up in little spirals. Everything was calm; our great day was over. The temperature fell brutally. In our double tent of nylon and silk it was minus 32° centigrade. But our equipment was perfect. We took stock of our oxygen and found we could use 1 litre a minute, without interruption. There was total calm, not a breath of wind. In our dreams our crampons bit into the summit snow, on that summit ridge overhung with cornices, of which we had thought for months.

The summit of Makalu is a perfect pyramid of snow, so sharp that one could cover it with one hand, one finger towards Everest, one towards Tibet and a third towards Nepal. The lines of the three ridges are so steep that we had difficulty in keeping ourselves roped together, around our three ice-axes driven in up to the head. We stayed more than an hour on the top, digesting each minute as a bit of life that we should never find again. Then I put back in my rucksack a souvenir; the French colours that had made with us the ascent of Makalu. And I gave to Gyaljen the Nepalese flag with its signs of the sun and the moon. Next day the third group of climbers, J. Bouvier, P. Leroux, S. Coupe, and A. Vialatte, made the ascent on two ropes. A few days later the first monsoon clouds drove across the sky and we fired into the night our Very light signals of distress, now useless.

The Sherpas, in the thick smoke of their tent, were singing.

From the summit looking down across the south-east arête to Peak 3.

JUGAL HIMAL

ELIZABETH STARK

IN the Spring of 1955, three of us, members of the Ladies' Scottish Climbing Club, embarked on the first all-woman expedition to the Himalayas. We went to the Jugal Himal which lies north-east of Kathmandu and which, as far as we could discover, was the last great unexplored region of the Nepal Himalaya.

Of the members of our party only one, Monica Jackson, had been to the Himalaya before, on an earlier expedition to Sikkim where she had reached a height of 21,000 feet. Having spent much of her life in India she speaks Hindustani fluently which proved a great asset. The doctor of our party was Evelyn Camrass, an all round sportswoman and an unfailingly cheerful companion. I myself am a speech therapist. All of us had experience of climbing in the Alps, and in Scotland all the year round. Evelyn and I, with three other members of our club, had camped and climbed in Arctic Norway.

As it happened we did not want to go to the Jugal Himal at all. The fact that this area is so easy of access—it is little more than a week's march from Kathmandu—led us to suspect that there was some good reason for its having remained unexplored. We were not long in discovering what it was. Tilman had tried to penetrate the area during the monsoon and had described its mountains in the Alpine Journal as difficult of approach and uncompromising.* He had looked down into one of its deep gorges, where the waters, in full spate, were roaring their loudest. By a more practicable route he reached Tempathang, the village nearest to these mountains, but the local people—who are Sherpas—told him that they no longer took their yaks up to the high alps, and that the track and its bridges had fallen, through lack of use, into disrepair. Tilman did not have enough time at his disposal to make further investigation.

We did apply to the Nepal Government, for permission to visit the Jugal, but only so that we might in the passing investigate any possible approaches to these mountains. Our real objective was the Langtang Himal which lies to the west of the Jugal. Unfortunately, or so it seemed at the time, Raymond Lambert forestalled us in applying for the Langtang, and when our permit arrived it was for the Jugal Himal only. There was nothing for it

* Vide 'Nepal Himalaya' by H. W. Tilman.

but to go and look at the deep impassable gorges which we imagined must defend its mountains—or to stay at home.

We left Kathmandu on 13th April, alarmed by reports in the Himalayan Club Bulletin of mountaineers being drowned on the march. We had learned how to cope with swollen rivers—in theory. But the only hazards we met in the foothills were drought and forest fire. The local people burn the grasses on which their yaks graze to encourage after-growth. Often these fires get out of control and spread to wooded areas, with the result that much valuable timber is lost and the danger of erosion is incurred. A day or so before we reached Tempathang, one of these fires roared up the hillside opposite with terrifying speed, like an avalanche in reverse, and a little later we had to pass through another, though fortunately it was neither so violent nor so devastating.

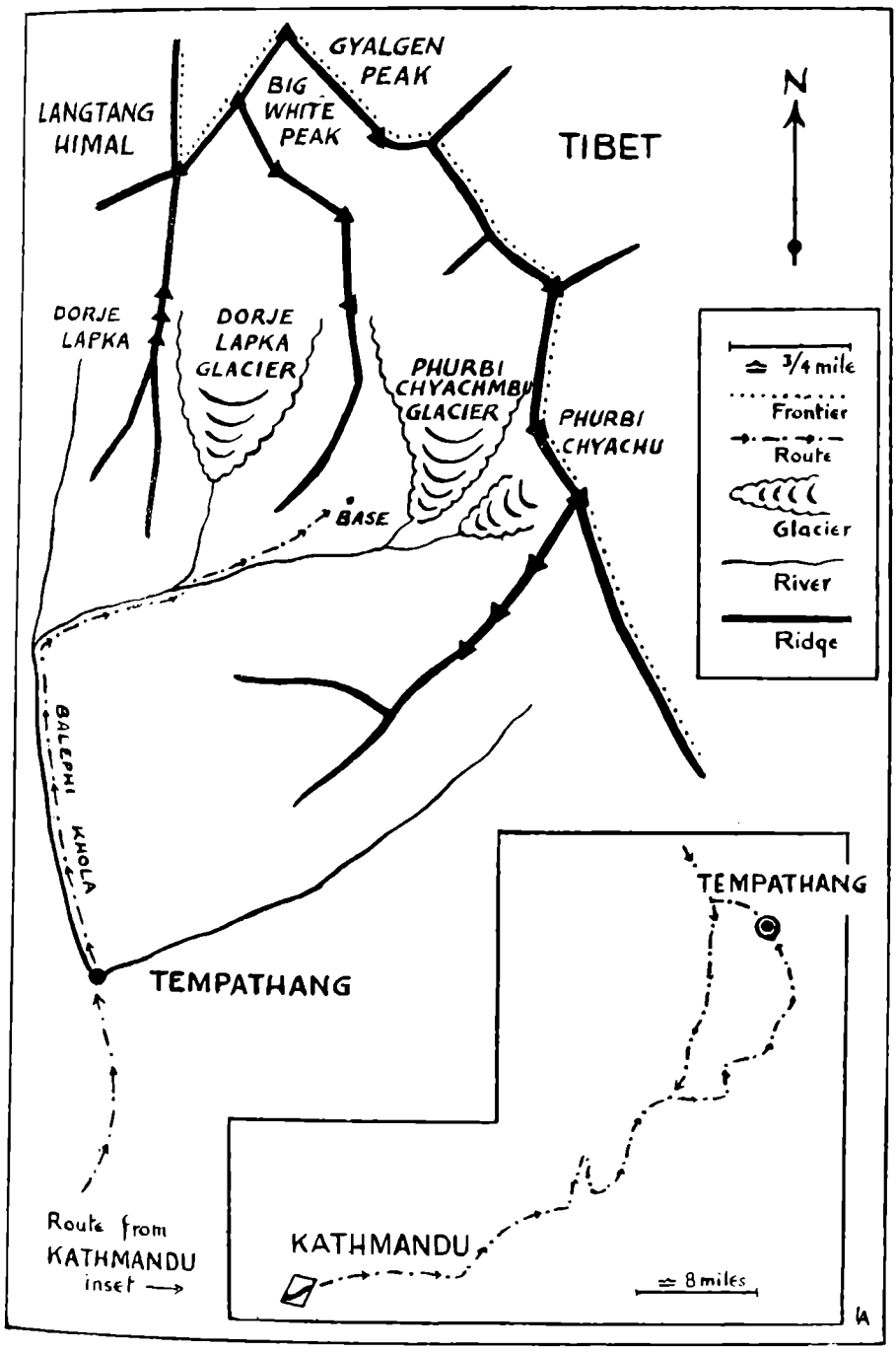
When we reached Tempathang, the villagers declared, to our joy, that there *was* a track to a high alp, from which a glacier could be reached. One of these worthies boasted of having been right up to the glacier, close enough to put his hand on the ice. All seemed willing enough to accompany us as porters. On further enquiry we did not find that these people had resumed old habits and gone back to high alps which had been abandoned for a time. They had never stopped using them. Our guess is that they tried to put Tilman off with their story, because they did not want to go up to the mountains with him during the monsoon.

We dismissed our Kathmandu coolies in favour of these natural mountaineers, who turned out to be irresponsible, but likeable and strictly honest. Signing them on was rather like getting up a Sunday School outing.

There are three main glacier valleys in the Jugal Himal, running roughly parallel north and south. We could not penetrate the first two of these, for their exits are deep gorges, but our track took us to a high alp near the foot of the furthest, most easterly glacier. Here we established our base camp. It was in a delightful spot. The tents were sheltered by stalwart boulders, and round them grew primulae and cowslips. Above the camp towered a queenly mountain, 21,844 feet, with the splendid name of Phurbi Chyachu. To our disappointment the local people said this name meant 'Rather like a chicken.'

The nearby glacier was the Phurbi Chyachmbu, and from the map, though it must have been drawn mostly from guess work, and from what we had seen of this glacier, we expected it to be the most difficult and complicated of the lot. This was far from being the case. Once we had puzzled a way up through its lower

ice-fall, which was like playing counters in a shining topographical game of snakes and ladders, we found ourselves on a long, smooth highway to the heart of the Jugal Himal and the frontier of Tibet.



The clouds held off till the afternoon at first, but as the monsoon strengthened they came up earlier each day. Often we finished our day's climb and made camp in cloud. We had no idea of what we should see in the morning on first looking out of the tents—what unclimbed, unnamed mountains might have taken shape in the mists of the previous day's advance, or what new and sometimes terrible aspects of those we had already seen might be revealed. We were discovering a magnificent horseshoe of peaks, and even when we sat blowing on our fingers in camp in the early morning, the snow blue and iron-hard, or when we struggled up in deep, soft snow gasping for breath, it gave us a thrill of pleasure to remember that we were the first people to go among them.

We visited this glacier twice and reached a col on the frontier of Tibet on the second occasion. We found the frontier here was very clearly defined. On the Tibetan side, the Jugal peaks fall in sheer precipices, as if sliced away. Nearly all the bulk of the massif lies in Nepal.

From our col rose the long north ridge of Phurbi Chyachu. This ridge had looked fairly level from distance, at least as far as the north top of the mountain, and we had imagined that we might be able to find a route along it. Close up, it was now revealed to us as an appalling series of towers and pinnacles, each one leaning away from the next, so that they looked like a huge grotesque flower unfolding.

We did spot one approachable mountain at this juncture, a snow dome well to the north. It turned out to be the only mountain in the whole group which could by any stretch of the imagination be called easy. The others beggared our ideas of the impossible, their slopes polished by avalanche, their ridges sharp and formidable, with huge cornices. One possible exception, apart from our snow dome, was the highest mountain of the group, 23,240 feet in height. We began to refer to it as the Big White Peak, because we could think of nothing better and because the Sherpas thought this was a very beautiful name. But even this mountain would demand a much stronger and better equipped party than our own.

To reach our snow dome we saw we should have to climb a steep branch of the Phurbi Chyachmbu glacier, running north-west. We named this branch the Ladies' Glacier. The way up this was barred by an impressive ice-fall.

To the left of this fall was a narrow snow corridor which turned the worst of the crevasses, and though we did not like the look of it at first, since it seemed to be the very place where avalanches

Monica and Evelyn study Gyalgen Peak, the snow dome dominating the north-west arm of the Phurbi Chyachmbu Glacier. It is in the top right of the picture.

The three of us leaving Kathmandu with our liaison officer (the Nepal Government now insists that all expeditions shall take a liaison officer. We expected a Gurkha N.C.O., bristling with kukris and other weapons, but were met instead with a young lad who looked at first as if he needed looking after. He was most enterprising and helpful however).

might occur, we found it did offer the best route. To reach it we had to cut diagonally across the lower part of the ice-fall, through a maze of stable seracs, capped and caped with snow, and striped pink and green like neapolitan ices.

This took so long that we had to camp in the corridor, immediately below a large bergschrund. This had swallowed all the small avalanches which had so far come its way. No big avalanches did fall near us that night, nor had any fallen when we descended by the corridor some days later, but we spent an uneasy night in this camp all the same.

The only exit from this ice-fall to the upper part of the glacier was by way of a huge crevasse, splitting it, as it were, from ear to ear. At either end it was overhung by ponderous ice-blocks, so that we could not turn it. Once we had got over the first shock of discovering it, we found it was filled with debris, chunks of snow and ice which were all stuck together like sweets in a boy's pocket. On this stuff we crossed without mishap, though once or twice the foot of one of us went through, to the accompaniment of ice-chips tinkling far below. We chopped away an overhang on the far wall in order to get out. There was no further obstacle and about 1,000 feet higher we reached a snowy wind-swept waste. This lay immediately below a high col which overlooks the next big glacier of the Jugal to the west. Here we camped, though it was an inhospitable and sinister looking place.

A long, narrow arm of this glacier now ran north from our camp to another very high col, overlooking Tibet and lying about 500 feet below the summit of the snow dome which was our objective. Where it debouched above us was a monumental ice-fall, simple in architecture.

The following morning Evelyn was sick. She had more difficulty in acclimatizing to begin with than either Monica or myself, and at this camp could eat very little. In fact all she could keep down was marmite, which she cannot abide at sea level. After a short mental struggle she decided regretfully not to attempt the snow dome with us, for fear of keeping us back.

With two of the Sherpas, Monica and I sneaked through the ice-fall above by a little back door of a crevasse. Then a long, long grind faced us, up slopes of soft snow, through which ice showed when we least expected it. When we reached the high col, we crept out, well-belayed, over a huge cornice, and looked straight down a tremendous precipice of rock and ice to Tibet. Illegal entry was hardly possible. The only way we could get into Tibet was by falling in.

Crampons are probably advisable on the last part of this climb, though the slope is gentle. Mine came adrift, but this was not the only reason why I reached the summit half an hour behind Monica. She is only five feet one inch in height and seven stones in weight, but she is a really fast goer. To myself, barely able to take one step for every two or three breaths, she seemed jet-propelled.

We called this mountain Gyalgen peak, after Mingma Gyalgen, our Sherpa sirdar, because we were very pleased with the enthusiasm he and his men had shown throughout. At all times they had co-operated well with us, and they were truly anxious for us to succeed in all we attempted.

When we got back to camp, Monica and I found that we had been panting so heavily that the insides of our mouths had been badly burned by snow-glare. A storm which had been brewing now fell upon us, and confined us to camp for three nights and two days. The Sherpas' tent blew down and caught fire from the primus they had been keeping alight for warmth. Luckily they smothered the flames at once, and luckily too, the tent had a fly-sheet. Otherwise the screaming wind would have ripped it apart as soon as it was re-erected.

On the third morning the wind abated somewhat and we hastened to strike the tents, ripping them up, where their cotton skirting was frozen to the snow, and to pack up all our gear. Our fingers were soon quite numb. The tent poles would not come apart and had to be packed still stuck together and poking out at all angles. We got down to the Phurbi Chyachmbu glacier without mishap—except that one of the Sherpas slipped when climbing down a small ice-pitch and dropped his load. As it disappeared, we realized it contained all our sleeping bags and air mattresses. It was retrieved on the very brink of a grey-walled crevasse.

Negotiating the lower ice-fall was a very different matter. A thaw in the last few days at this height had stripped away the firm snow which had made the climb so easy that, as Monica said, we felt as much at home of it as on our own back-stairs. Now it was in a highly dangerous condition. The structure of the ice-fall was laid bare in all its ugliness and was rotten and crumbling. I was bringing down three Sherpas on the second rope, one of them snow-blind. The route had been made for me, but the steps were breaking by the time I reached them. I was badly scared and thankful to get off the glacier. None of us had any intention of tackling it again.

We now split up. Evelyn made a reconnaissance to the south

with some of the Sherpas climbing a peak between 17,000 feet and 18,000 feet in height and overlooking the south-easterly part of the Jugal. Monica and I crossed a pass we had discovered above base camp to reach the second big glacier to the west. Towering above it was Dorje Lhapka, 22,929 feet. This glacier presented a horrid spectacle and drew attention to itself every now and then by the thunder of its collapse and avalanching. It was in a state of wholesale disintegration and we did not care for it at all. To climb it would be a highly dangerous proposition, we thought.

We crossed it where it levelled out, by ice hummocks, and traversing below Dorje Lhapka reached a notch on the south ridge of the mountain at about 16,000 feet. From this we saw a kind of shelf linking the small glaciers of the most westerly valley of the Jugal. We think this shelf may form a high-level route, right round to the Langtang Himal. We wanted to explore a little further, but our time was running out and we had to come away unsatisfied on this point.

We certainly had not exhausted all the possibilities of the Jugal Himal. We had achieved a great deal more than we believed possible when we set out, and we had experienced the delights of climbing in the Himalaya, the adventure of the unexplored, and the peace of high camps. We could ask no better than that.

THE 1954 ITALIAN EXPEDITION TO THE KARAKORAM AND THE FIRST ASCENT OF K2[1]

PROFESSOR A. DESIO

THE idea of an Italian expedition to K2 came into my mind as far back as 1929. In that year I had taken part as a geographer and geologist in the Duke of Spoleto's expedition, and had examined that enormous mountain from a climbing point of view.

That expedition had also left several scientific problems open, which it was of great interest to clear up and solve.

It was in 1936 that, with some friends, I set out to consider the matter seriously: but only in 1939 did I succeed in laying down the plan with the support of the Italian Alpine Club. The war suspended all such activities. In 1949 I began to glimpse the possibility of realizing my dream, but serious difficulties, especially of an economic nature, were still in the way. Finally in 1952 the Italian National Olympic Committee placed the necessary funds at my disposal for a preliminary reconnaissance in Pakistan for collecting essential data for organizing the expedition. But an unexpected obstacle dashed my hopes: permission had already been granted by Pakistan to Dr. C. Houston, head of an American expedition, and for supply and transport reasons another permission could not be issued for the same year. I returned to Italy after having submitted a request for authority for a preparatory journey in 1953, and for an expedition to the Baltoro mountains in 1954, with two programmes, one scientific and the other mountaineering. The latter included the ascent of K2. The negotiations, lasting almost a year, went through varying vicissitudes, but in the middle of July, when things looked very black, I learned that the permit for the preliminary expedition had been granted.

My own optimism had in the meanwhile induced me to undertake certain preparations and to seek the necessary financial help, which was, in fact, supplied by the National Research Council.

At this point a few words on the geographical situation are advisable.

The Karakoram range is on the same latitude as Gibraltar, and is in a broad sense the section of the Himalayas farthest from the sea. For these reasons its climate is somewhat different from that of the Himalayan area best known to the public, i.e. that of Nepal, where rises Mount Everest. The monsoon only affects the Karakoram range to a small degree, and it reaches it with its humidity very much

[1] Reprinted from *Alpine Journal*.

reduced, having to a large extent lost it on the mountain ranges and plateaux nearer the sea. The climate is consequently drier, as is seen from the steppe-like and, indeed, desert landscape prevailing in that area, except in the irrigated districts, where the vegetation is extraordinarily flourishing, so that we come upon smiling verdant oases rich in cereals and fruits.

The Baltoro glacier and K2 (28,250 feet), the second highest mountain in the world, rising at the end of that glacier are in western Karakoram, reached through Pakistan, and more precisely from Skardu. Skardu is also the last inhabited centre towards the north which can be reached by mechanical transport.

As I said before, the government of Pakistan had in the middle of July granted me permission for the preliminary journey. Within ten days I had to organize and forward the stores to Pakistan. For the mountaineering part of the expedition I secured the help of Riccardo Cassin, whose expenses were provided by the Italian Alpine Club. On 20th August I left Italy by air for Karachi, whence I proceeded to Rawalpindi, where I met the Houston expedition on its return from K2, and thence to Skardu, the starting-point of the caravan route for the Karakoram range.

Before proceeding to K2 I visited, on the invitation of the representative of the Pakistan government, the valley of the Stak, an affluent, on the right bank of the Middle Indus, to study the problem of a glacier which had advanced about eight miles in the course of three months covering the whole valley, and seriously threatening the underlying villages. Thence, over two passes more than 13,500 feet high, I joined the main route to K2, reaching Askole, the last inhabited village, 9,700 feet high, on 18th September. I then proceeded to the Baltoro glacier and its chief tributary, the Godwin Austen, reaching the slopes of K2 at about 15,300 feet on 26th September. After carrying out a reconnaissance under the Abruzzi spur, I returned to Skardu, and four days later reached Rawalpindi, returning to Italy two months after my departure.

We have to remember that during the last half century K2 has been attempted five times. The first attempt was in 1902 by the International expedition Eckenstein-Pfannl-Guillarmod; the second was that of the Duke of the Abruzzi which, during 1909, opened the way along the south-east ridge, then called 'Abruzzi Ridge'. The other attacks were by American mountaineers directed by C. Houston (1938 and 1953), and by Wiessner (1939). These expeditions were able to reach the 'shoulder' of the giant, and Wiessner reached a height of about 27,500 feet. These expeditions were saddened by the death of five persons, two of them Americans.

On my return I learned that the Pakistan government had granted me the desired permission.

The plan of the expedition provided for two parties, a mountaineering and a scientific group, the former with the task of undertaking the ascent of K2, the latter with that of completing and extending the research carried out by earlier expeditions, and particularly by the Italian expedition of 1929.

My financial plans were based on two important grants, one from the National Research Council and one from the National Olympic Committee. The remaining sum was raised by a subscription of the Italian Alpine Club. The Club, in fact, appointed an *ad hoc* Committee consisting of its leading members to co-operate in the mountaineering part of the undertaking, and when, owing to bureaucratic difficulties, the contribution of the Research Council had to be temporarily suspended, the Committee, chiefly through the Vice-President, Dr. Vittorio Lombardi, who from the very first had lent me valuable assistance, intervened to organize the financial side of the enterprise.

The preparations were based on a fundamental plan, in which I provided in detail for all the various operations and their respective dates from 25th November 1953 to the day of conquest of K2, and thence on to our return to Italy.

I here only record the general time-table of the expedition, with reference to the mountaineering part of the undertaking, adding that for each of the four phases of which I shall speak very detailed time-tables existed, but for reasons of brevity I shall not go into them.

1st Phase: Organization. Preparations for the expedition carried out in Italy from 25th November 1953 to 31st March 1954.

2nd Phase: Further preparations. Transportation of the members of the expedition and luggage from Italy to the base camp. Acclimatization and training. General test of the materials *in loco*. From 1st April to 15th June.

3rd Phase: Attack. Fitting out the camps on the Abruzzi spur of K2. Transfer of supplies to the higher camps. Final attack. From 10th June to 20th July.

4th Phase: Return journey. The return to Italy of the mountaineers from 21st July to 16th August.

With regard to the scientific activities, all operations as far as Skardu had been arranged in common with the mountaineering party. From Skardu the scientists, in small parties, were to carry out their work independently, at first in the Stak area and then on the Baltoro, where a meeting had been arranged for 20th July.

All preparations were carried out, as a rule, at the dates previously

decided. Only the attack on the summit of K2 underwent a considerable delay owing to the exceptionally protracted bad weather at the time. Before telling the story of the expedition, I shall say something about the technical and organizational conceptions applied in the attack on K2.

(*a*) The 'heavy' structure of the expedition, i.e. its organization in such manner as to make it possible to remain for a considerable length of time at high levels.

(*b*) Complete equipment with pitons and fixed ropes along the whole route of the ascent, from the base on the Abruzzi spur to the 'shoulder' and beyond. We had, in fact, nearly 3 miles of rope with us.

(*c*) All the camps were provided permanently with all necessities for the mountaineers according to prearranged plan.

(*d*) A higher camp was only occupied when the preceding one had been adequately equipped and provisioned.

(*e*) Transfer of the loads on the Abruzzi spur by means of windlasses and telepherics whenever possible.

I shall now introduce my comrades and collaborators:

Prof. Paolo Graziosi, 48 years of age, Professor of Ethnography in the University of Florence, Ethnographer.

Prof. Antonio Marussi, 46 years of age, Professor of Geophysics in the University of Trieste, Geophysicist.

Dr. Bruno Zanettin, 31 years of age, Professor of Petrography at the University of Padua, Petrographer.

Captain Francesco Lombardi, 36 years of age, Geodetical Expert and Topographer of the Italian Military Geographical Institute, Topographer.

Dr. Guido Pagani, 37 years of age, assistant in the Civil Hospital of Piacenza, Medical Officer.

Then the mountaineers:

Erich Abram, 32 years of age, of Bolzano.
Ugo Angelino, 32 years of age, of Biella.
Walter Bonatti, 24 years of age, of Monza.
Achille Compagnoni, 40 years of age, of Cervinia.
Cirillo Floreanini, 30 years of age, of Cave del Predil.
Pino Gallotti, engineer, 36 years of age, of Milan.
Lino Lacedelli, 29 years of age, of Cortina d'Ampezzo.
Mario Puchoz, 36 years of age, of Courmayeur.
Ubaldo Rey, 31 years of age, of Courmayeur.
Gino Soldà, 47 years of age, of Recoaro.
Sergio Viotto, 26 years of age, of Courmayeur.
Mario Fantin, accountant, 33 years of age, of Bologna, cinematographer.

The selection of the scientists was carried out directly by myself according to their particular tasks. The names of the climbing party were originally suggested by the Italian Alpine Club Committee for the expedition.

On the basis of a first general examination, twenty-three men were chosen who seemed best suited for the work. They were informed by myself in Milan on 15th December of the conditions and requirements necessary for taking part in the expedition: they were all volunteers and therefore received no pay; all were subject to disciplinary regulations. After this meeting, when I illustrated the climbing problems of the Abruzzi spur of K2 with colour slides, the first medical examination and physiological tests of the candidates were held in the clinics of Milan University. A first selection was made on the basis of this test.

As none of the candidates had taken part in mountaineering expeditions except in the Alps, and also in order to test some of the materials for the enterprise, I arranged two winter camps for the candidates at high level, one of them under the Piccolo Cervino at the height of about 11,600 feet, and the other on the Monte Rosa group between the Gnifetti refuge hut and the summit (15,217 feet).

During the period in camp I had arranged for various climbing and glacier exercises under the control of an officer of the Alpine Military School. The first camping period took place during the second half of January. The mountaineers were first subjected to further physiological tests and examination at the Turin University Institute, and the tests were repeated at a height of 12,000 feet at the end of the exercises.

On the basis of the physiological test and the report of the military observer, the Committee proceeded to the final selection of the mountaineers, whose number rose from eight to eleven, as in the meantime I had been informed that it would be practically impossible to recruit Sherpas.

The second camping period, designed primarily as a first test of acclimatization, worked out according to plan between 16th and 26th February plus an extra week for some of the men.

During the two camping periods tests of various materials were also carried out. The tents, for instance, were specially made on the lines of those used by the Swiss and the British on Everest. The first model had been used during the preparatory expedition of 1953, and after that experiment it had been improved on the basis of the experiences of the camp on the Piccolo Cervino, where the temperature had always remained very low. For example, for the inner lining of the tents several different materials were used, such

as cotton, wool, silk, and nylon; thermometers had been installed and compared with others outside: ropes, portable receiving and transmitting radio sets, a light telepheric, various garments of wool, cotton, etc., were also tested. The last test was carried out in the Monte Rosa camp. The oxygen open-circuit respirators, of which two types were adopted, one Italian and one of foreign manufacture, required particular study by the special subcommittee; the provisions were selected by a committee of manufacturers, mountaineers, and physiologists; the boots were prepared by a committee of technical experts, perfecting the British type with opossum lining for the approach and the Swiss type of reindeer skin for the highest levels; for fuel to be used for cooking provisions, tested in a decompression chamber, propane was chosen, in containers which could be used as cooking ovens and lamps.

About the middle of March a good part of the materials lay ready for shipment in the underground vaults of the Geological Institute of Milan University, which was the headquarters of the expedition.

The cases were packed by members of the expedition, with the help of a few friends; I had arranged that the cases were, for the most part, to reach their destination without being opened at Skardu or at the base camp. They were thus numbered in black, red, green, or blue according to contents and destination. We also had different types of packing material: canvas bags, small cases of plywood, and boxes of waxed cardboard with special internal insulating material. Italian industries, technical experts, and skilled workers did all in their power to help us in this delicate preparatory phase.

On 30th March everything was ready; this heavy luggage, weighing over 13 tons, was shipped at Genoa and escorted by two members of the expedition as far as Karachi. Early in April, I sent Dr. Zanettin by air to Pakistan, with the task of organizing the landing of the material and its forwarding to Rawalpindi. I left Rome by air on 13th April while the bulk of the party joined me at Karachi a week later.

Thanks to the customs' facilities accorded us by the Pakistan government and the generous collaboration of friends residing at Karachi, the heavy luggage, arriving on 13th April, was forwarded at once to Rawalpindi. Here the weather, unfavourable for the flight to Skardu, held us up for several days.

During this period our expedition was joined by Colonel Ata Ullah, of the Pakistan Medical Service, as Government observer, three Pakistan officers (Major Beshir, Captain Butt, and the engineer officer, Munir), to assist us in the organization of transport as far as the base camp, and the assistant topographer, Bashadjan.

Finally, on 27th April, the weather having improved, all the luggage and some of the members of the expedition reached the Skardu oasis on the left bank of the Indus by air.

While we were providing for the organization of the great caravan for the transport of the 500 loads to the base camp, with the help of the local authorities and above all of Ata Ullah, we took the opportunity for a first flight around K2 with the same plane and the same crew which had conveyed us thus far. With a perfectly clear sky and limpid atmosphere the aeroplane took off from the emergency landing ground of Skardu at 6.30 a.m. on 30th April, and rose in broad spirals over the vast sandy plain where the waters of the Shigar join the Indus.

On reaching 21,000 feet we flew towards the village of Askole and the great mass of the Baltoro glacier, reaching Concordia where the two principal branches join. After maintaining our highest ceiling of 22,500 feet, we turned towards K2 rising up on our left. The conditions of the mountain, especially in its highest part, did not appear different from those reproduced in the photographs which Houston had kindly presented to me.

Soon afterwards we passed over Windy Gap and reached the great Gasherbrum and Urdok glaciers, barring the Shaksgam valley, of which I had made a topographic survey during the 1929 expedition. This experience of twenty-five years ago proved very useful, as it enabled me to find my bearings and to direct the route amid the very complicated network of valleys, crests, and glaciers. On reaching the Shaksgam valley we diverged towards the Sarpo Laggo glacier, already well known to me, and on reaching the level of the characteristic Muztagh Tower, it was fairly easy for me to find the pass of the same name and to return to the Baltoro and thence directly to Skardu after a two-hour flight. This aerial view of the territory to be explored gave me data on the snow conditions of the Baltoro which appeared covered with snow only above the 13,000-foot level.

Meantime, we had provided for recruiting 500 coolies in the environs of Skardu. I subdivided them into three echelons, entrusting the commands to Soldà, Compagnoni, and Angelino respectively, assisted by the Pakistan officers and the head-man Sadiq and by ten Hunza bearers, especially recruited by Ata Ullah to help in transport at high levels.

The three echelons left Skardu at one day's distance from each other between 30th April and 2nd May. I left with the last but speeding up my march I gradually got ahead so as to see personally how the caravan was proceeding. At Askole, Ata Ullah had secured

the large supplies of flour necessary for proceeding through uninhabited territory. Coolies consume nearly two pounds per head each day, so that the daily requirement amounted to half a ton. For the journey there and back the consumption of over eight tons of flour had been provided for at Askole, which covered several trips as far as Urdukas at a height of 12,000 feet and a three-days' march from the base camp. There were days in which my marching caravan on the Baltoro amounted to nearly 700 men. In addition to these, three smaller caravans, sometimes independent of each other, sometimes united, operated in the Stak area on scientific work.

It is easy to imagine what problems of supply occupied my mind, and how anxious I felt when, on reaching the Liligo halting-place on 9th May on the left side of the Baltoro, it began to snow. The Baltis were not provided with winter outfit, nor could I provide it for such a large number of men. On the following day the march on the glacier took place under a heavy snowfall and in an icy temperature. Luckily, at Urdukas there were good natural shelters and fuel. But as the snow showed no sign of stopping, the coolies refused to proceed farther.

Every day's delay created new transport complications owing to the supply of flour, but on the other hand it was not possible to forge ahead with such a large number of men in a snowstorm.

The first desertions then commenced, fortunately not very numerous. In the early afternoon of the following day, leaving a good part of the mountaineers at Urdukas for the first period of acclimatization and training, when the weather cleared up a bit, I was able to get the caravan going again. The snow continued to increase on the ground as we proceeded, which made our progress laborious. On the morning of 13th May, after two icy nights spent by the men in limited moraine spaces, the wind cleared away the clouds and the sun came out to warm us up; but at the same time it created further difficulties with the blinding glare of the snow. We had a supply of snow glasses but not enough for such a large number of men: during the flight over the Baltoro, all this area had been clear of snow. On the morning of the 14th the situation was anxious, as the Baltis seemed determined to leave us. After long negotiations, however, we succeeded in inducing them to proceed, but some of them left us, dropping their loads along the track.

In the afternoon we reached Concordia, the magnificent mountain amphitheatre at the confluence of the two great arms feeding the Baltoro. K2 arose majestically on the background of the Godwin Austen glacier, nearer to us and above us rose another 24,000-foot peak, Falchan Kangri (Broad Peak), and Gasherbrum with two

more 24,000-foot heights, largely hidden by their younger brother. The spectacle was magnificent, but wintry.

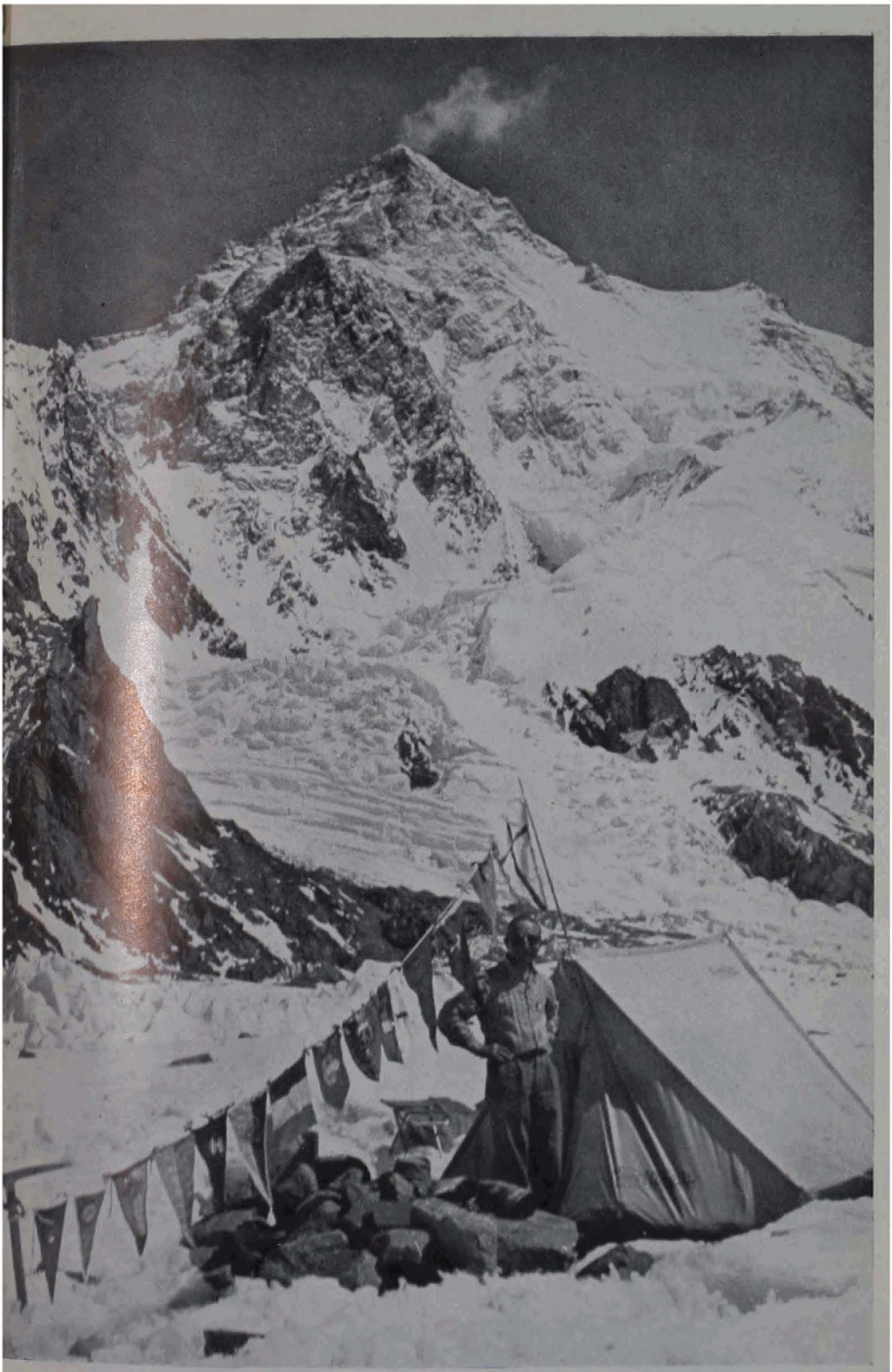
On reaching the halting-place, at 14,000 feet and at only five hours from the base camp, the unexpected happened. All the Baltis, exhausted and burnt by the sun, laid down their loads, raised vigorous protest and set forth in small groups on the way back.

Compagnoni, Gallotti, Ata Ullah, the three Pakistan officers, eight Hunzas, and only one Balti, besides the caravan head-man, remained with me. I was perplexed and disconcerted, unable to restrain that mass of exasperated men. I at once sent the Pakistan officers and the head-man back to Askole with the task of recruiting and sending me as many coolies as possible.

On 15th May on a bright sunny day, I reascended the glacier to the foot of K2 to choose a site for the base camp: the general plan for the expedition provided for the formation of the base camp by that date. On that occasion I only set up one tent as a gesture.

The weather broke once more and it began to snow obstinately; in two days the snow stratum had risen to two feet. Finally on 19th May a caravan of fifty Baltis, led by the mountaineers who were at Urdukas, unexpectedly arrived, and the next day we succeeded in getting it to push ahead with Compagnoni, Puchoz, Gallotti, and Rey towards the base camp. On their return, however, the fury of the weather not only prevented us from sending back the caravan to the base camp with further supplies, but put us into serious difficulties owing to the scarcity of flour. As soon as the weather cleared it was necessary to send them back down the valley. Only on 25th May did the weather mend, and on the following day, by mobilizing all available men, I myself removed to the base camp, remaining in touch with the Concordia camp by wireless, but not with Skardu, with which I had never been able to establish connexion.

The temperature during those days kept very low: the thermometer dropped to four degrees below zero Fahrenheit. The next day I sent Compagnoni, Gallotti, Puchoz, and Rey on a reconnaissance on to the Abruzzi spur. They returned the same evening and told me that they had found the sites of camps 1 and 2 of the American expedition. During the following days other coolies came to Concordia with Soldà, carrying all the luggage left along the route, and on 28th May the other mountaineers reached the base camp with Ata Ullah and a caravan of 105 Baltis. The latter completed the transfer of the baggage next day to the base camp, while on 30th May we succeeded in inducing sixty-two of them to proceed to camp 1, where we conveyed a good part of the materials and provisions for the



Base Camp at 16,400 ft.

On the summit of K2.

attack phase. The last day of May all the mountaineering group were finally gathered together with myself at the base camp, and the baggage had also arrived complete. The bad weather had delayed our general plan for fifteen days.

The reconnaissances carried out on the previous days on the Abruzzi spur had in the meanwhile enabled us to identify the most favourable tracks along the snow slope east of the spur for employing the windlass, which we had brought out from Italy with the object of dragging up the materials by means of a special sledge formed with a pair of skis. The first experiment was carried out on 2nd June between camps 1 and 2, and gave excellent results. During the following days nearly all the mountaineers, divided into two parties commanded by Compagnoni and Soldà, and a part of the Hunzas were distributed between camps 1 and 2, to provide for the transport of the materials by means of the windlasses. Until 4th June the weather remained favourable, and transport proceeded very speedily, but the next night the sky became cloudy once more, and in the morning gusts of fog, accompanied by snow, involved the whole of K2. This was the beginning of a period of atmospheric disturbance lasting an exceptionally long time. In spite of the unfavourable weather, transport operations on to the Abruzzi spur proceeded, although more slowly. In the meanwhile, on 29th May, camp 3 had been set up, whereas the American camp 2 had been abandoned in order to establish our own at the higher level of the sledge route. On 14th June Compagnoni carried out a reconnaissance to camp 4, also examining the conditions of the rock face dominating it and which must be overcome to reach the site of camp 5. The 'Bill Chimney', which furrows the wall, was all encrusted with ice, but did not necessitate the employment of the rope ladders which we had brought with us, while the utility of the light telepheric, already used as a windlass lower down, was a boon. Two days later Compagnoni, Gallotti, and Puchoz again climbed up to camp 4 to carry up tents and supplies. The two latter descended to camp 2 the same day, where Puchoz began to suffer from throat trouble, while the others returned to the base camp. Throughout this period the weather had remained unfavourable, with wind, snow, and a low temperature. During the night from the 20th to the 21st it snowed unceasingly and Puchoz's state of health at camp 2 got suddenly worse, with symptoms of pneumonia. In spite of the assistance of the doctor and the large available supplies of medicines and oxygen, he suddenly expired at one o'clock on 21st June.

The next day we all descended to the base camp and a violent snowstorm broke out. The disappearance of one of our team filled

our hearts with deep sorrow. For three consecutive days the storm continued to rage blocking us all in our tents. Only on the 26th was there a slight improvement, which enabled us to recover the body and convoy it to the base camp. On the 27th we all ascended in procession from the base camp to the spur at the confluence between the Godwin Austen and Savoia glaciers, where we buried Puchoz near the monument erected the previous year by the Houston expedition in memory of Gilkey.

It was necessary to react immediately against the prostration caused by the loss of one of our team and to resume the operations on the Abruzzi spur. Could there be a better way to honour Puchoz's memory than to attain K2, the peak for which our friend had sacrificed himself?

The weather remained comparatively calm during the two following days. On the 28th all the mountaineers and the Hunzas resumed their posts in the various camps on the Abruzzi spur and proceeded with the transport operations. But on 1st July the weather broke once more, the wind began to blow hard and the snow to fall.

Life in the tiny camps, spread out like eagles' nests on the Abruzzi spur, was terrible. The continuous and violent shaking of the walls of the tents, the difficulty in cooking the simplest meals, the prolonged immobility of the men in a very narrow space, the intense cold, all this was terribly wearing physically as well as mentally. Taking advantage of occasional short pauses in the storm, the wall above camp 4 was scaled and the telepheric planted near its higher edge. On 4th July Compagnoni, who had been entrusted by myself to lead the final attack, together with Abram and Gallotti ascended to camp 5 where the first tent was pitched. Two days later Abram and Gallotti ascended to camp 6. As had been arranged, every removal from one camp to a higher one was accompanied by the placing of pitons and fixed ropes along the ascent route so that with the conquest of camp 6 the whole route from camp 1 was marked by an uninterrupted sequence of fixed nylon ropes. These ropes provided security for anyone having to move along the Abruzzi spur and made it possible to descend rapidly to the base camp even in bad weather.

The ropes that had been left in several spots by the expedition of 1953 had not been used for prudential reasons, except for two coupled together, just below camp 7. On 6th July, a few minutes after Floreanini had started the descent, the ropes slipped off their anchorage and the consequence was that Floreanini flew down, tumbling on a heap of snow and ending his downfall 800 feet below, bruised and bleeding, but without breaking any bones. Needless to

say, the two ropes were immediately replaced with materials out of our supply.

During the following days the weather continued generally unsatisfactory, but nevertheless a tent was pitched on camp 6, and on 18th July a roped party, consisting of Compagnoni and Rey, followed by Bonatti and Lacedelli, after overcoming serious difficulties due to the abundant snow, finally succeeded in climbing on to the shoulder, reaching as far as the American camp 8 and laying 700 yards of fixed ropes along the ascending route. Meantime, on 17th July, thanks to the help of a U.N.O. wireless operator stationed at Skardu, we succeeded for the first time in getting into touch with that station and thus with the rest of the world.

During the following days the weather underwent alternating phases of improvement and storms. Taking advantage of the more favourable moments, camp 6 was transferred 300 feet higher up in order to eliminate the American camp 7, regarded by us as far too dangerous, while transportation towards our camp 7 was being effected first by Abram, Bonatti, Lacedelli, and Gallotti and then by Compagnoni, Floreanini, and Rey and some Hunzas.

On 28th July the weather improved considerably of which fact the mountaineers took advantage to establish camp 8 a little below a point marked 25,492 feet under another wall of ice, and there a tent was pitched, where Compagnoni and Lacedelli remained. The decisive moment was approaching, as the weather was definitely turning fine. The next day—the two mountaineers in vain attempted to establish camp 9; the difficulties caused by the wall of ice and the abundant snow limited their reconnaissance, which was, however, repeated the next day. At the same time the four men who were at camp 7 had set out with two oxygen respirators, a tent, and a supply of provisions for camp 8, but only Bonatti and Gallotti succeeded in reaching it. In the course of the evening two Hunzas, Mahdi and Isakhan, also reached camp 7. On 30th July, while Compagnoni and Lacedelli, after overcoming the ice-wall, reascended the shoulder and went on to set up camp 9—consisting of a very high tent, under the wall of rock which cuts the terminal cupola of K2 at about 24,000 feet—Bonatti and Gallotti descended to camp 7 to fetch the respirators and then started off again at once with Abram and two Hunzas, with loads of supplies and propane, a liquid gas. After reaching camp 8, at about noon, Bonatti and Mahdi pushed on almost at once, with the respirators, towards camp 9. When night fell they were still on the march, but they succeeded in identifying the camp and calling out to their comrades. The two men higher up shouted to them to leave their loads and descend, because below them

there were some extremely dangerous slopes which could not be negotiated in the dark. On the other hand, Mahdi was no longer in a fit state to go on. The two men did not dare to risk a descent, but dug a hole in the snow and passed the night in it, starting off on the return trip at dawn.

Compagnoni and Lacedelli, after descending in the early hours of the morning to recover the respirators, resumed the ascent.

The first and serious obstacle that they had to face was the very steep couloir that notches the rocky wall put up as defence of the terminal dome of K2. Direct attack seemed impossible owing to the abundant snow. The first attempt was carried out on the rocks to the left, but Compagnoni was driven back, falling down into the soft snow, fortunately without any serious consequences. The attempt was repeated by Lacedelli who overcame the rocks and reached the steep snow-covered slope above, where he yielded the lead to his companion.

Another menacing high wall surmounted by jutting pinnacles leaned over the two men. They first overcame some difficult slabs covered with unstable snow, then leading through, after hard work in deep soft snow which reached their hips, they had to move to the left along the rocky crest that forms the side of the highest southern wall of the mountain.

Fog came up. They proceeded, almost blinded, along rocks encrusted with ice until they were compelled to move again towards the central portion of the ice-bank that forms the terminal dome on slopes covered with snow, very steep and dangerous. A gust of wind swept the fog away allowing them to see a series of humps which seemed to be near the summit.

At this moment the two men felt a sudden sensation of suffocation, a strange warmth in the whole of their bodies, and a sense of weakness in their legs. When they succeeded in overcoming this feeling of dismay, they realized that the oxygen of the respirators was finished. They removed at once their masks and deeply breathed in the icy air to the full. Having ascertained that they were still masters of their energies and that their minds worked normally, they resumed climbing with great effort. Every moment it seemed as if the summit was only a few yards away, but as soon as they had reached the top of the dome, another appeared in front of them. The fog had disappeared and a bitter wind cut their faces. It was 6 p.m. when the two climbers saw the slope gradually slip away from their eyes while the horizon was opening out in every direction.

At last, the summit!

Filled with joy they embraced each other and raised the flags of

Italy and Pakistan and also dropped the respirators (which they had carried up so as to save themselves from the effort of removing them and to avoid causing avalanches in the unstable snow by their movements). They remained half an hour on the top to take photographs (which proved most successful).

When they set forth on the downward march night had already fallen, and the difficulties and dangers which they had to face proved very serious. The soft snow lying on the very steep slopes beside the couloir threatened at every moment to avalanche. The descent proved extremely risky and was carried through under the menace of overhanging seracs. With the help of God also this terrible obstacle was passed and then they reached the ice-wall. It was absolutely impossible to find the way down in such profound darkness. After many attempts Compagnoni plunged forward dropping 45 feet, but slipping into the soft snow he managed to escape. It was a terrible moment. Finally at 11 p.m. they caught sight of the near-by camp 8 where their comrades were awaiting them. It was safety at last.

The next day the weather changed: the wind whistled menacingly and the clouds chased each other swiftly across the head of the conquered giant, while the snow began to eddy through the air. At dawn on 1st August the whole party began to descend from the shoulder, abandoning, according to instructions, everything which was not absolutely indispensable. But all was not yet over: suddenly Compagnoni slipped, tumbling and rebounding about 600 feet down; he would have finished on the Godwin Austen glacier below had not a small wall of fresh snow stopped him. Having collected themselves after this incident, the party resumed the descent.

Thanks to the fixed ropes, Compagnoni reached camp 4 at 11 a.m. to be attended to by the doctor of the expedition, his fingers having been affected by frostbite. Soon afterwards the others arrived, except the Hunzas who stopped at camp 5. Lacedelli, too, had had one of the fingers of his left hand frostbitten, while Mahdi's toes had been more seriously frostbitten during the bivouac under camp 9.

Floreanini and Rey departed the same evening of 1st August from camp 4, and were able to announce the victory at the base camp. The next day, while the storm continued to rage, all the mountaineers and the Hunzas descended to the lower camps and then to the base camp. The mountaineering phase of the expedition had thus been successfully brought to an end.

But the expedition as a whole was not ended. The scientific programme had still to be carried out. During the three months which the mountaineering enterprise lasted, the scientists—Prof. Marussi,

Dr. Zanettin, and Captain Lombardi—had carried out a large-scale topographical survey of the upper valley of the Stak, with particular regard to the famous Kutiah glacier, a geological and petrographic study of the whole area, and a series of astronomical, gravimetrical, and magnetic stations, not only in the main points of Pakistan, but also in the above-mentioned territory. The work had been then extended to the Turmik valley, and the geological survey also to the upper Shigar valley. Owing to the difficulties of communications with the scientific party, while Zanettin, in harmony with the general programme, reached me at the K2 base camp on 17th July, Marussi and Lombardi only arrived a month later when I was about to abandon the Baltoro.

A week after the conquest of K2, while base camp was being transferred to Urdukas, I left the K2 area, together with Zanettin, to carry out a geological survey on the upper Baltoro. Having reached Urdukas a week later, I was present at the passage of the climbers on their way back, and then I went with Zanettin on to the Younghusband glacier, the largest one still unexplored of the Baltoro, which I ascended as far as its head, where I went over a pass (which I named Moni-la), about 17,000 feet high, and which leads to the Moni glacier, an affluent of the Sarpo Laggo which I had already explored and surveyed in 1929. After a rapid visit to the Muztagh glacier, I then descended to Askole, while Zanettin explored another branch of the Baltoro, the Vigne glacier. Then I organized a light party to carry out a series of summary geological surveys in the basins of the Biafo and the Hispar, two of the chief glaciers of the Karakoram.

Marussi and Lombardi then reached the K2 base camp, where some tents, fuel, and abundant supplies still remained, and carried out a topographical (photogrammetrical) survey of the great mountain, passing thence on to the upper Baltoro, where in 1929 it had not been possible to carry out a detailed survey. I left Askole for good on 30th August to ascend the Biafo glacier, while Zanettin by the Skoro-la descended the Shigar valley, where there remained some geological problems to be studied, and thence returned to Rawalpindi via Skardu. In five days I ascended the whole of the Biafo; after going over the Hispar pass (16,900 feet), on 4th September I commenced a rapid descent of the glacier of the same name, leaving it on the 7th for a short stay at the first permanently inhabited village. Then, through the small states of Nagar and Hunza and along the Hunza river, I reached Gilgit on the 14th of the same month. After two and a half days of geological excursions in the neighbourhood, I returned by air to Rawalpindi, where Zanettin joined me.

During the preceding two months another scientist of the expedition had reached Pakistan, Prof. Graziosi, with the task of carrying out ethnographic studies among the peoples of Hunza, Chitral, and the Astor area and paleoethnological investigations in the Peshawar, Rawalpindi, and Lahore areas. For reasons which remain unknown, Prof. Graziosi was not granted permission to carry out his ethnographical studies, but fortunately his paleoethnological researches achieved full success. Before returning home I took a trip by car, chiefly for geological purposes, as far as Kabul, the capital of Afghanistan, and paid a hasty visit to Delhi to conclude definite agreements for the gravimetrical connexion between that city and Karachi.

During this period Marussi and Lombardi, after finishing their surveys on the Baltoro, completed the geophysical programme, taking measurements in the valley of the Indus as far as Parkutta and in the Gilgit area as far as Damas (Chitral), and then established a gravimetrical connexion between Karachi and Delhi and between Karachi, Beirut, and Rome.

The balance-sheet of the expedition thus shows on its credit side the results of a series of scientific researches in the field of geography, with the explorations accompanied by topographical surveys, of vast areas of the Stak and of the Baltoro basins, with the setting up of astronomical stations and carrying out morphological studies in the geophysical field with numerous measurements and observations on terrestrial gravity and magnetism, and in the paleoethnological field with the discovery and the study of various prehistoric sites.

To this we should add the zoological and botanical collections, formed only at levels above 12,000 feet.

The elaboration of the data collected and the study of the material brought back to Italy, will require not less than three years of work.

I must add again that the photographic documentation has been very considerable; the photographs in black and white and in colour amount to many thousands, taken along all our itineraries. The many thousand feet of colour film shot include two rolls of 100 feet shot on the summit of K2.

The basic plan of the expedition, in spite of unfavourable weather, was carried out with results which I leave the reader to judge. This was only possible owing to the enthusiasm, self-sacrifice, and discipline of the whole party and to the efforts of previous expeditions that opened the road along the Abruzzi ridge of K2.

With acknowledgement to the Alpine Journal.

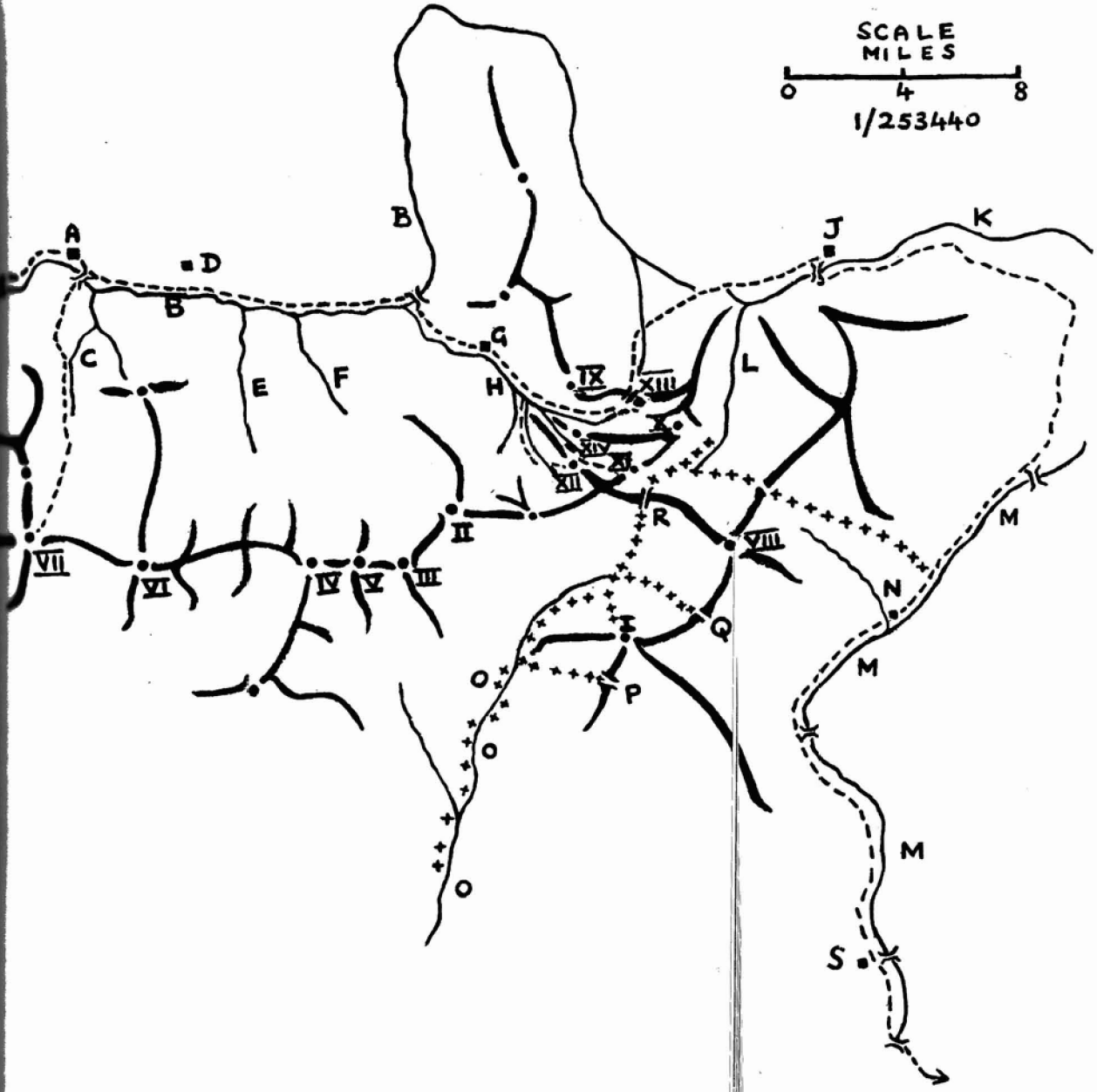
ROUND ABOUT DHAULAGIRI

J. O. M. ROBERTS

PLANNING an expedition to the Himalayas is of course part of the fun, and not least choosing the district. In the autumn of 1954 it was to be Nepal again. In 1953 I had been able to do a little exploring south of Everest and to see something of the eastern ranges, and in 1950, with Tilman, we had been among the central giants, Annapurna, Manaslu, and Himalchuli. So now I turned my eye westwards and scanned the 200 miles of almost untouched country between Api and Dhaulagiri. Apart from Pokhara there are few big lakes in Nepal and I was attracted by the 2-mile splash of blue on the map which was the Phoksumdo Tal, 14,000 feet above sea-level and circled by high mountains. Kanjiroba, 22,880 feet, especially, seemed a worthy objective for a small party. This country is some 50 miles north-west of Dhaulagiri. The approach would be from Sallyan to the south-west, up the Thuli Bheri river to the small town of Tibrokot at about 8,000 feet. Sykes and Polumin of the British Museum Expedition had collected in these parts in 1952 and supplied useful information, but for high-mountain exploration it was to all intents virgin ground. So I applied for permission early in 1954, but as a precaution specified an area within a fifty miles radius of Tibrokot.

I say as a precaution, as I have to confess to a weakness for making one or more changes in plan before the party actually reaches a road-head, fortunately at last bound by the lie of the land to a definite objective. Having finally and enthusiastically decided on a certain area, two or three months' planning and meditation begin to breed a staleness almost, and the roving eye scanning the map alights on a new and more exciting mountain, possibly many miles away. I may note too, three phases in the preparatory stage of an expedition: one begins with wise and modest aims, determined not to make the mistake of attempting too much, but as time passes confidence and ambition tend to soar and an attempt on a peak of 21,000 or 22,000 feet is discarded in favour of 'having a look at' something a good deal higher. Phase three comes a little later, before the actual plunge of departure. Now doubts begin to creep in and airy plans surrender for the time being to the immediate and limited object of getting the party intact to the base camp.

In the present case the second, or the sky-is-the-limit, phase coincided with a further examination of the map and it was impossible now not to notice that some 20 miles upstream from Tibrokot the



I	Dhaulagiri	26,810
II	,,	25,429
III	,,	25,271
IV	,,	25,064
V	,,	24,885
VI	Churen Himal	24,158
VII	Putha Hiunchuli	23,750
VIII	Tukucha Peak	22,688
IX	Mukut Himal	22,000
X	Hangde Peak	22,824
XI	Langru Peak	22,000
XII	Conical Peak	21,000
XIII	(Climbed 1954)	20,500
XIV	(Climbed 1954)	20,500

A Kakkotgaon
B Barbung Khola
C Kaya Khola
D Pemringgaon
E Churen Khola
F East Churen
G Mukutgaon
H Murut Khola with tributaries from west to east: D II Glacier, Chimukarmu, Langru, and Hangde
J Sangdah Goan
K Keha Lungpa
L 'Hidden Valley' (French 1950)
M Kali Valley
N Tukucha
O Mayangdi Khola
P Dhaulagiri South Col
Q ,, North Col
R ,, Col des Francais
S Dana and Route to Pokhara

---------- Routes 1954 (British)
++++++++ Routes 1953 (Swiss)

Thuli Bheri became the Barbung Khola, and the Barbung flowed down from behind the main ridge of the Dhaulagiri Himal north of three peaks of over 25,000 feet, possibly the last of the giants of the Himalayas not yet reconnoitred even in main outline. So Mukutgaon near the head of the Barbung and in the northern shadow of Dhaulagiri II became our intended base. This constituted in fact no very major change in plan, but suggested a realignment of the approach route farther to the east of the Bheri valley. Meanwhile, the final decision on this point was kept as a later tit-bit.

A leader liable at short notice to fly off on a personal compass bearing of his own is well advised to keep his party small. It cuts down argument. To go alone with Sherpas permits maximum freedom of movement, but it is also pleasant to travel with a companion of one's own race, and I was lucky to find an ally in George Lorimer. We had been to the Karakoram together in 1946. Our object now was to climb a big mountain and apart from the possibly debatable point of size of party we were determined in all other ways to give ourselves a chance of achieving this object, topographical details permitting. Thus our four Sherpas were to be proved South Col men, and we opened negotiations for their employment in February: several hundreds of pounds were spent on equipment and while subscribing myself more or less to the bag-of-rice school, I instructed Lorimer, buying our supplies in Calcutta, that no expense should be spared to maintain morale below the snow line and life above it. As for dates, a post-monsoon party is more or less committed to a monsoon approach march so as to arrive at a base camp on about the day the weather lifts and make full use of the immediate post-monsoon lull. In our case it was, however, desirable to gain some distant views of the mountains before we made a definite base and we settled for a departure on about 10th September, putting us halfway by 21st September, when the monsoon might be expected to end.

I was to fly to Calcutta from Singapore to join Lorimer on 1st September, and on about 15th August preparations entered phase three. The Nepal permit had not yet been granted, the equipment had been in the Calcutta customs for two months and looked like staying there for another two, and severe flooding and loss of life along the Nepalese Indian border bade fair to make a mockery of thoughts of a holiday trip through these stricken regions. To cap other worries a letter now arrived from Angtarkey, with whom I had not previously corresponded, saying that he had noted my demand for Sherpas and intended sending four honest men. Honesty is a quality

which I much admire below the snow line but subordinate to climbing ability above, and I sent off a panicky cable to Lorimer. But as usual these difficulties disappeared one by one. The Nepal permit came through and we travelled together from Calcutta to Lehra near the frontier with the expedition equipment in one enormous wooden box, sealed by the customs and only to be opened in Nepal. The floods had evidently affected the west but little, and on arrival in Lehra I was only mildly put out by the news that our head Sherpa, Passang Dawa, was in hospital with pneumonia.

By the time we arrived Passang was much better, but he would not be fit to accompany us. Thus at one stroke we had lost, sirdar, our most experienced climber and cook. I was glad to see Ang Nyima again. Below the snow line he is a somewhat wayward character and one needs to know and understand him. On a mountain and especially under difficult conditions he becomes a genuine example of that often misused term, a born leader. We owed a great deal to his climbing ability and drive. The other two Sherpas were Lhakpa Tensing, Darjeeling born, but a likeable and capable young Sherpa, and an older and rather depressed looking man, Pemba Norbu, who is the father of the Passang Phutar who gave trouble before Everest in 1953. Pemba's latest reference said he was not yet an expert rock climber, which gave me a fellow feeling for him, a remark which, however, he disproved towards the end of the expedition when given his head for about the only time. Meanwhile, he was cast as cook, it would be ungrateful to say miscast, as he did try very hard. Just before we left Angtarkey had, from the safety of Switzerland, issued an order that porters were in future to demand five rupees a day, as opposed to the old rate of three or four. This we agreed under pressure, but we did stipulate that as we had no sirdar that each man would have his own department, as it were, and receive equal pay. At the end of the expedition it was to our surprise, stolid, and reliable old Pemba who complained. He claimed extra wages for cooking. As I had for the past month been suffering from what I was privately convinced was a gastric ulcer, and stabbing pains which were not at that moment yielding to a treatment of cold beer, I fear that Pemba received a very curt reply to his request. In place of Passang we took a Gurkha rifleman, Hastabahadur Ale. Poor Haste did not care for mountaineering but he was invaluable in base camp and kept us supplied in game with the aid of our twelve-bore gun. And to complete the party Douglas Carter of the Lehra Depot joined us for the first two weeks of the approach march.

Dhaulagiri Himal from the north. From left to right : Dhaulagiri II (triangular face), III (rock summit), V (highest point on the

Now we discarded the low-lying but circuitous Bheri valley approach in favour of a route to the east which would bring us into the Barbung at Tarakot, some way above Tibri. This was obviously a more direct way but we had been doubtful, as the last seven days to the Barbung lay over high and very sparsely populated country, culminating in the 15,522 feet Jangla Bhanjyang. We feared that a bad track, monsoon wet and cold, and coolie shortages might combine to halt the party. However, local advice in Lehra indicated that all should be well, and this route had the added advantage of giving us views of the Dhaulagiri range from the south, monsoon permitting, which might have a bearing on our future movements. Finally, there was the beneficial effect on Singapore and Calcutta constitution of some preliminary jogging up and down between the six and fifteen thousand foot contour. About a third route, much farther to the east, to Mukut from above Tukucha in the upper Kali valley, we had at this time even less information. The track was clearly marked on the map, but so was a track on the other side of the Kali leading almost to the summit of Annapurna. This route we decided to keep for our return journey when we would be travelling light.

On 7th September we rose at three o'clock and loaded the expedition box, the food loads, and ourselves into two trucks and set off for the hills. As we motored across the plains 100 miles of the main Himalayan Range slowly caught fire in the north, a gigantic semicircle of sentinel mountains which watch over the rolling green hills and forests of the cradle of the Gurkha race, traversed by the gorges of the unseen river valleys, Buri Gandaki, Marsyangdi, and Kali. The mountains were Himalchuli, Manaslu, Annapurna, Machhapuchare, the gash of the Kali, and then the enormous bulk of Dhaulagiri and its 25,000-feet outliers stretching west to Putha Hiunchuli. Great names all, and great country. Within an hour they were hidden behind thick haze, and as we negotiated long and tedious customs formalities a dust storm swept the countryside followed by torrential rain. In Butwal we unloaded the box for the last time and broke open the seals with savage satisfaction. All that afternoon we packed and sorted loads and by the evening all were ready together with twenty men to carry them. Phase three was over. With mugs of rum we lay at ease on the upper verandah of a friendly inn below a blue silhoutte of wooden hills: there was a distant roar of running water, the air was fresh after the rain and life was very good.

The days that followed were of the usual pattern of a march in the late monsoon. It rained every day but not particularly heavily

or continuously. The valleys were very hot and the rice fields full of water: the track edged along muddy, slippery banks or waded through fields and irrigation channels and then shot steeply up blue ridges into the mists. There were rivers to cross by dugout or by swing bridges in various stages of apparently perilous decay, and after that vision on the road to Butwal we hardly saw the snows for a month.

After twelve days we reached the pleasant green valley of the Uttar Ganga at 10,000 feet in alpine country and halted a day to change coolies. The Butwal men had carried well and were keen at first to continue, but they had brought insufficient clothing for the more rigorous days ahead. Here in Dhor we were surprised to find that our carriers would be Kamis, the menial metal-worker caste of Nepal. We did not care for the Kamis, a rather mean and grubby crowd who talk too much and struck a hard bargain. Having said this I must add that once under way they carried well and with few individual exceptions stuck to their bargain. Their toughness and fortitude in wind and rain in more or less open camp sites at over 12,000 feet with little firewood amazed us, wrapped ourselves in high-altitude clothing and with sleeping bags and tents in which to take refuge. Now for seven days our way lay through a fine country of high ridges, alpine meadows, and pine forest. This was the time we should have been gazing at the southern and western aspects of the mountains of our desire, but hardly a glimpse we caught through the monsoon clouds. We crossed the Jangla Bhanjyang and descended to Tarakot. Here we changed transport and it was Kamis again. They even had a large village of their own, apart from the main settlement of Gurkha stock mingling into Nepalese Bhotia. A meaner lot this, who demanded cash in advance and took three days to cover two days' march to Kakkotgaon. From here the people were Bhotia and the track became passable for yaks. We bade farewell to our Kami army without regret but our satisfaction was shortlived for the men of Kakkot demanded a quite impossible sum to take us the remaining three days to Mukut. Twenty-four hours' bargaining by Lorimer by now firmly established as the Dr. Schacht of the expedition, reduced this by half. We now left the pine country and travelled through barren gorges and over windy uplands, relieved in places by beautiful oases of crystal springs and birch and juniper copse.

On 5th October our yak caravan marched into Mukut. Including halts the journey had taken twenty-eight days and we had spent much more than our budget of transport money. But we had arrived, and here in Mukut we found friends and fine mountains, and six

weeks stretched ahead. This day, too, the monsoon ended at last and for three weeks there was hardly a cloud in the sky.

Leaving Pemba and Haste to look after base the four of us took a week's food up to camps at 17,000 and 18,000 feet above Mukut, which lies itself at 14,000. From here we climbed without great difficulty two peaks of about 20,500 feet: the snow-line north of the main range is high and these climbs cannot be compared with similar altitudes to the south. The summits, however, gave us views of the fine twenty-two thousanders around, none too easy but mostly climbable to the eye of faith. It was tempting to continue here, but we had not walked all this way to bag such lowly peaks. During our advance up the Barbung we had seen little of the northern slopes of the Dhaula range owing to the weather, and now we were round the corner, to the east. But the eastern face of Dhaulagiri II was visible, the amazing back-drop to our camps and climbs during this time. This surely is one of the great mountain walls of the world. The summit is 25,429 feet high and the snout of the small glacier at its foot only 14,000 feet. The fall of fluted ice is almost sheer for three-quarters of this height.

We descended to Mukut full of confidence after our early successes, and intent on now finding a way up Dhaula II from the north. Down in base we found that during our absence Haste had shot some forty head of snow pigeon, snowcock, and hill partridge. As his cartridge allowance had been three a day, or eighteen in all, this was a good example of Gurkha skill and cunning. Later on he shot two bharal with a twelve bore. I don't suppose many climbing expeditions have before consumed so much meat in the Himalayas or featured fresh roast partridge on the high-altitude menu. But apart from this matter of food, and we seldom had the gun at hand at the right moment anyway, the close presence of game gave an added fascination to our walks and explorations below the snow line. One day while by myself I saw within a single hour two herds of bharal, several coveys of partridge and snowcock, two hares, and the usual snow pigeon.

Lorimer had been falling out below the 20,000-foot contour on our preliminary climbs and it was now decided that he should stay with Ang Nyima in order to gain further acclimatization, while Lhakpa and I retraced our steps down the Barbung to view the lower peaks of Dhaulagiri from the north. During one long day, 16th October, I reached from a camp at Tarenggaon a height of about 17,000 feet above Pemringgaon, and thanks to excellent view-points and fine weather was able to make a fairly accurate assessment

of the problem. In the *Himalayan Journal* for 1934 Professor Kenneth Mason lists:

Dhaulagiri	26,810 feet
Dhaulagiri II	25,429 feet
Dhaulagiri III	25,271 feet
Dhaulagiri IV	25,064 feet
Dhaulagiri V	24,885 feet

And farther to the west:

Churen Himal	24,158 feet
and Putha Hiunchuli	23,750 feet

All these points of Dhaulagiri were clearly visible including the main peak itself which lies, however, some 4 miles south of the axis of the Dhaulagiri Kimal, far removed from the Barbung, and in which our interest was only academic. The clue to all four of the remainder lies in the attainment of the great open slopes of snow and ice which supply the ice-falls emptying down into the cauldron of the upper Churen Khola. From these slopes at about 22,000 feet no critical difficulties apart from distance and altitude appear to bar access to the summits, excepting Dhaulagiri IV, a much tougher proposition than its higher neighbours. The ice-falls below are very steep but should be surmountable provided their snouts extend down to the valley floor and do not overhang ice-worn rock precipices. This latter condition seemed quite probable but it was not possible to look over the rock peaks which buttress the upper Churen, and down into its head. And herein lies the second difficulty, for there is no route up the river gorges and the only course would be to outflank them by a wide detour over very precipitous ground to the east. The locals at this time denied the existence of the possibility of any such route and it did seem that any move in this direction would be ill supported by them.

Wandering along by myself over these pleasant rolling uplands with one of the great views of the Himalayas before me, I was in something of a quandary. It seemed that we should really make an attempt to gain the head of the upper Churen and examine the ice-falls, but this double problem of both the gorge and the ice-falls would probably put an ascent of Dhaulagiri II completely beyond the reach of a small party and I was doubtful about devoting the rest of our time to a reconnaissance which might give a negative result. I was beginning to wish that the whole face was a downright precipice without the ghost of a route, so that we could return to the smaller Mukut peaks with a clear conscience, when my further wanderings, higher and westwards in a vain attempt to see over the

bulwarks of the Churen, brought me into sight of Putha Hiunchuli and an excellent compromise. From a height of about 21,000 feet the north-east face, an enormous slab of snow and ice only moderately inclined, led to the 23,750-foot summit. What lay below I could not see from here, and I avoided the fact that above this height Dhaulagiri II also looked climbable but was very doubtful below. In the case of Putha I had, however, a feeling that there was a route and I returned to Mukut the following day to persuade Lorimer as to our future course. We agreed at once on an attempt on Putha Hiunchuli, but to be preceded by a week of climbing and further acclimatization above Mukut to fit us for the trial, followed by an attempt by Lorimer to force the gorge of the upper Churen while I made certain that a route existed up the Kaya Khola from Kakkot, at any rate to the foot of my day-dream.

This first week was not a great success. After three days' hard work we reached a height of about 20,500 feet and only 500 feet below the summit of a mountain we called Conical Peak, only to find ourselves cut off from the base of the steep but climbable final ice cap by a 200-foot knife edge of rotten rock, which we were unable to negotiate. A higher camp or a more careful reconnaissance would have probably ensured success. From this valley called the Chimukarmu we moved north in a single day to a camp 18,000 feet at the head of the Langru glen and at the foot of a fine 22,000-foot mountain. Now we were careful and determined to make certain of our summit. Lhakpa and I made a track up the first 2,000 feet and found a site for a proposed camp. From here the ice slopes to the top looked steep but even now possible of attainment despite a late start. However, we descended according to our careful plans, and to a second disappointment, for at last the perfect weather broke and we were chased down to Mukut by heavy snowfalls.

This snow came after three clear weeks, and fearful of the arrival of what we called the winter snows we decided to turn to Putha Hiunchuli without further delay. This was as well, as the trip lasted three weeks in all and despite continued clear weather during much of this time the cold and wind of November did not encourage high climbing. Above the tree-line lest pictures of blue skies deceive, we were usually inside tents and sleeping bags two hours after noon if in camp.

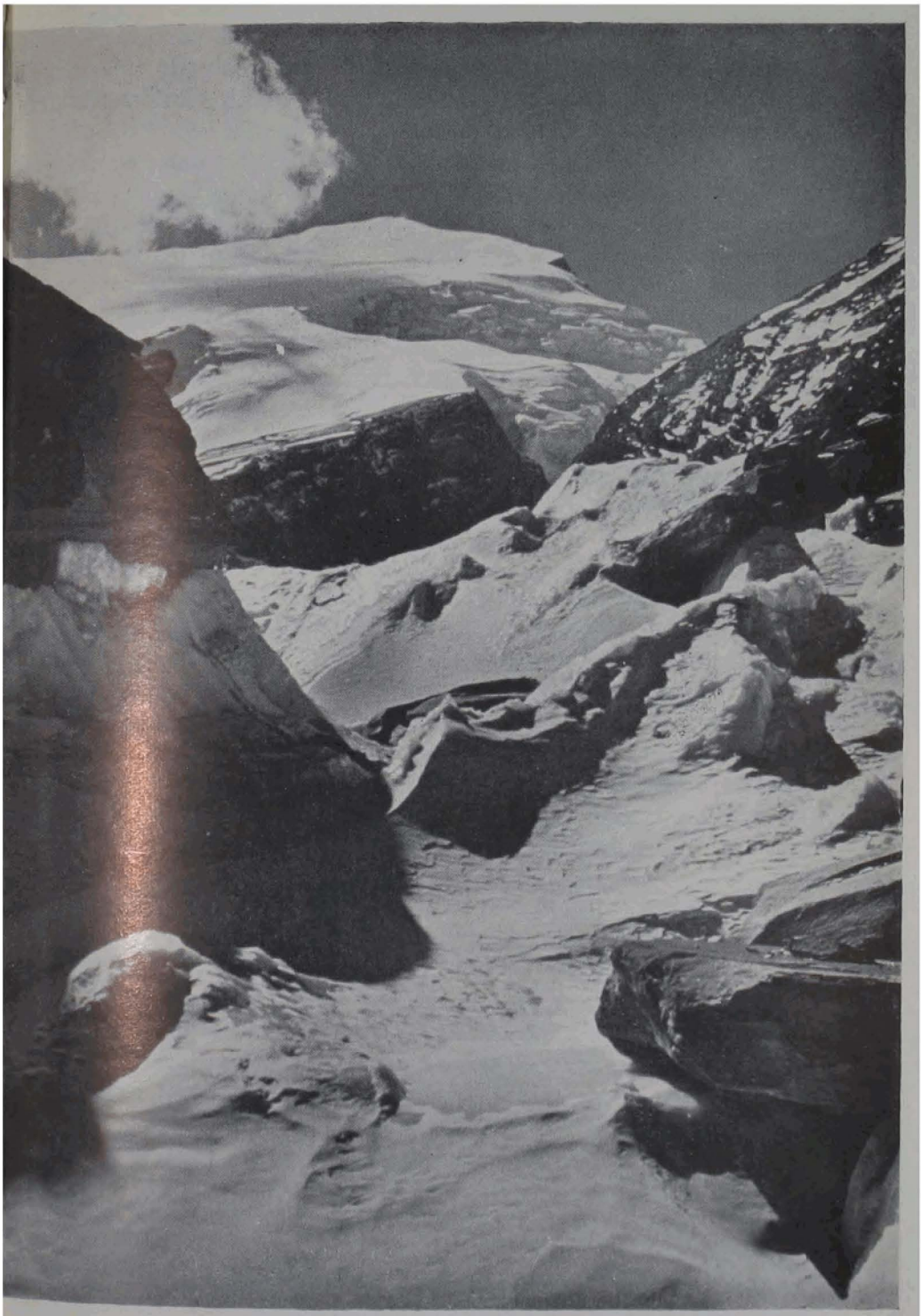
While Lorimer, at one time chest deep in the main stream between retaining walls 2,000 feet high and 6 feet apart, failed to find a way up the Upper Churen, Ang Nyima and I were little more successful in our search for a route up the Kaya Khola to the base of Putha Hiunchuli. Unlike the Churen there was, however, a route, by a

detour to the west, although the men of Kakkot did their best to deny it until six braves were offered a very high wage to take us into the valley above the gorge. A long day above Kakkot failed to give me a single view of Putha, which is a very elusive mountain from the north, and my morale sank low as the subsidiary caravans of the expedition approached my camp, convinced by my silence during the past few days that the way was clear. However, we were committed to an attempt on a mountain of which we had seen only the top 3,000 feet and we left Kakkot on 2nd November. To complicate matters it snowed in the afternoons for the next four days and in places we had to cut steps in the frozen earth below the snow covering for the porters' soft-soled boots. On the third evening we dropped down into the Kaya Khola and camped beyond the gorge at 15,000 feet, but only some 2 miles and 3,000 feet upstream of its junction with the Barbung and the main path to Mukut.

The Kakkot men left us here and the following days were spent relaying loads over difficult and tedious ground to Camp I at about 17,500 feet. This was finally stocked on 7th November and at last we saw the lower slopes of our mountain for the first time and that the way to the summit appeared to be clear. To save food we now sent Pemba and Hastabahadur back to Kakkot and told the former to return after four days with two local men. Further relays and a steep ice slope above Camp II at 19,500 feet brought us to Camp III at about 21,250 feet established on 10th November. The weather was now improving and although the wind was strong and discouraged thoughts of a higher camp on these exposed slopes, it was never a serious menace. The cold was, however, already beginning to affect my feet and at Camp II I changed into our remaining pair of American insulated rubber boots, the Sherpas having adopted with our blessing this elephantine foot-gear lower down. This I did after discussion with Lorimer, who in plain leather boots seemed happier than I was in my specially made double-skinned Himalayan boots, and was now coming on form.

That night in Camp III was noisy with wind and rather depressing. I had had a trying time with crampons, which slipped off my rubber boots every few feet, and worked until darkness joining the two with the aid of boot-laces. But it was this combination which gave us the summit the following day. Without crampons the long climb up these wind-hardened slopes patched with ice would not have been possible in a single morning, and poor George in his leather boots had to give in to the cold after two hours. Lhakpa went down with him.

Ang Nyima and I continued. The climb is unfortunately a photographic blank as the camera had been left out of my sleeping bag



Putha Hiunchuli from the head of the Kaya Khola.

and both shutter and wind-on were frozen. The summit cone was considerably steeper than the lower slopes but lacked any real technical difficulty. None the less, conscious mainly of warm feet and the fact that I had never been so high, the climb gave considerable pleasure and 200 feet below the top I cramponned slowly past a young man who had been to nearly 28,000 feet on Everest. At 1.15 p.m., four hours after leaving camp, we were looking with gratitude across to the southern sea of green hills and valleys and the country we had traversed six weeks before. The descent was pure joy, striding straight down towards the two tiny tents at Camp III.

Here we spent a second night and then continued down to meet Pemba at base. Descending to Kakkot we used a much shorter ridge route, snowed up at the time of our ascent. And so back to Kukut, climbing on the way the slopes north of the Barbung to examine once again that side of the Dhaulagiri Himal. Now, after our Kaya Khola experiences, the route into the top of the Churen looked more promising, but my mounting enthusiasm was tempered by a further examination of the lower ice-falls. We had talked before of what we would do after Putha, but now we were tired and time and weather were running out. It seemed best to turn at once to the return by the route eastwards into the Kali valley, leaving the problem of Dhaulagiri II and even our half-climbed Langru mountain until another year.

We left Mukut on 20th November with yaks, and after a week of high passes, dust, and bitter wind reached Tukucha. Now in wooded and softer country, but with Dhaulagiri and the Annapurna still towering in the background, we walked towards Pokhara. There, on 10th December, we changed transport for the last time and boarded an aeroplane for India.

TOPOGRAPHICAL NOTES

The Survey maps of the country covered during the approach marches, i.e. between Nautanwa on the frontier up to Mukutgaon, are reasonably accurate, but north-east of Dhor they are much the reverse. The main peaks of Dhaulagiri are easily identified from the north. From Putha Hiunchuli eastward as far as the summit of Dhaulagiri II sheet 62 P appears accurate as far as the general outline of the main ridges is concerned; as indeed it should be, for the hills to the north of the Barbung provide the surveyor with a grandstand view of the range. In Nepal individual names are seldom given to other than outstanding peaks, such as Machhapuchare or the great mass of Dhaulagiri itself. Names given in response to offhand questioning of locals should be treated with caution. The

system of numbering the lower peaks of Dhaulagiri seems fairly satisfactory, although in the upper Barbung these peaks are known as Churen Himal. The name Putha Hiunchuli evidently derives from the south or south-west. The meaning of Putha is not known, but 'hiun' is snow, in Nepali, and 'Chuli' is often used for summit or high place. South-east of Mukut a diagrammatic correction of the map has been attempted. About the nalas Chimakarmu, Langru, and Hangde the peaks offer a fine climbing field for a small party. Lastly, in comparing heights with mountains south of or on the main Himalayan chain about 2,000 feet can be cut from the effective altitude of these northern summits, owing to the higher snow line. And a mountain presenting to the north and north-west fine slopes of ice and hanging glacier will, on its southern side, be little more than an immense and toilsome hump of rotten rock and scree, sometimes, and more infuriating, caused by a small, but impossible lump of ice.

In collaboration with and by courtesy of the Alpine Journal.

TO THE MONK'S HEAD ON RAKAPOSHI

ROGER CHORLEY

As we passed the signboard announcing Rawalpindi on the long straight road from Peshawar, the car's mileometer clicked up another mile: we had arrived. We had left London on 28th April and now, 9th June, we were in Rawalpindi 7,585 miles away so the tachometer said. We had only thought of the idea of going out to the Himalayas by car in the New Year: Fisher, Wrangham, and myself would drive out and the other three, Tissières, Band, and Fraser, kept by the Cambridge term until the beginning of June, would bring it back again. But the idea of a party from Cambridge visiting the Himalayas was born as long ago as the winter of 1952, and indeed we nearly got away in 1953, but as permission, and then only 'in principle', arrived in the middle of the Tripos, that year did not seem a very propitious one. However, for 1954 permission arrived in February, and now we were in Rawalpindi.

During the course of the next week the other three, together with the luggage, arrived variously and in driblets, so that by 18th June we were ready to fly into Gilgit. At the last moment the party was powerfully reinforced by Major-General M. Hayaud Din, Chief of General Staff of the Pakistan Army, who decided it was an appropriate moment to do a tour of duty in the Gilgit area. The presence of a Chief of General Staff in the party suggested that as far as the difficulties of getting to the mountains were concerned we should not have much trouble. And indeed, the promptness with which he dealt with the first crisis, the breakdown of the only civilian plane on the Gilgit flight, emphasized this. With a mere three days' delay, he arranged with the Air Force for us and our baggage to be flown into Gilgit on 21st June.

This flight to Gilgit must be one of the most spectacular in the world, for you fly up the barren Indus gorge at 10,000 ft. with the mountains rising above on either side to culminate in the huge bulk of Nanga Parbat, its summit only a few miles away and still fully 15,000 feet above you; but on the 21st Nanga was closely covered in clouds. This 1½ hours' flight saves a march of ten days through not very interesting country and enables you to spend longer among the more exciting valleys of the Karakoram. The suddenness with which you are set down in the heart of the mountains is worth while.

I should perhaps say something about our plans. To be respectable an expedition must apparently have plans and we, because of the

presence of an Austro-German expedition in the same area, were required to be very explicit. (Once in the mountains, however, this didn't seem to matter much.) Our general idea was to spend the first fortnight in the Kukuay glacier area north of Chalt climbing, getting fit, and sorting some topographical problems that arose out of the Anglo-Swiss expedition's brief visit in 1947. Then we would go over to Rakaposhi (25,550 feet), and if there was any time left we would travel up through Hunza and Nagar to the Hispar glacier and Distaghil.

In Gilgit we heard that the Germans were in the Kukuay area, so reluctantly we chose a small but unknown valley to its west, the Karengi. With the General dismissing obstacles in a forthright manner, we were off from Gilgit on the 22nd. Six jeeps, loaned by the Northern Scouts, took us to Chalt, 34 miles to the north, and in addition we had six Hunza men from the Scouts to act as porters.

Two days later we were pitching our first Base Camp about 2 miles below the snout of the Karengi glacier. For the first day or two it was difficult to get a clear idea of the geography of the valley, as the district seemed to be getting its proverbial annual four inches of rain in a single instalment. However, the valley turned out to be a simple one: a glacier 5 miles long with an ice-fall at half-distance and spreading out into snow basins around its head. Two peaks were attempted, one of 19,180 feet, the only one which seemed reasonable and close at hand, but discretion was superior to valour on an 'avalanchy' slope a few hundred feet from the summit, so it remains for someone to complete its ascent. A combination of bad weather and distance prevented us launching the final attack on the second peak: a mountain much the same height as the first, and near the head of the glacier.

We learnt several important things from this trip; our Scouts did not seem to be too good, or keen, as load carriers; the mountains seemed to start much lower down than in, say, Nepal; and the weather seemed to be Alpine in character—usually bad, with good spells. On 3rd July, a typical Welsh day of rain and mist, we were coming down to Chalt again. Our 'acclimatization period', to use a fashionable phrase, had not really been a great success. The weather had been almost uniformly bad and our fortnight had been cut short at one end by the flight delays at Pindi and at the other end by an invitation from the Mir of Nagar to come to his Ginani or Harvest Festival at Nagar on 7th July. The Ginani is a semi-movable feast for the first week of July. The Mir had already moved it as much as possible to suit our convenience, and it would have been sad to miss

such a unique opportunity for the sake of a few more days in the Karengi.

We went to Nagar by way of Hunza. From Chalt you cross the Hunza river by a simple but precarious method: a soap-box suspended from a cable by a pulley. The middle of a long rope is tied to the pulley and villagers from either side pull you across. We walked the first 5 miles to meet the equestrian half of the expedition. (We were by now a large party, for the Colonel of the Northern Scouts and his camp followers had joined us.) As most of the climbers had never ridden before, it was only in order not to lose face that we were induced to mount these animals on a narrow path that picked its way between a tangle of boulders. Certainly the well-known Bengali proverb of a distinguished predecessor of ours on Rakaposhi that 'the sight of a horse makes the traveller lame', was not immediately applicable. The saddles in this part of the world are of wood and apparently their owners have them tailored to fit. One knows one cannot successfully wear someone else's clothes, and much the same would appear to be true of tailored saddles; by the end of the day we were all extremely sore. Control of the animals we also found tricky, and most of us had Gilpin-like episodes at one time or another.

It is magnificent country, this gorge of the Hunza, 'difficult to describe without indulging in superlatives . . . the ultimate manifestation of mountain grandeur' to quote Eric Shipton. An arid country in browns and greys with a track sketched improbably across the great cliffs and scree slopes; over these sections you should walk your horse. Yet here and there, as if to emphasize the impression, is a dab of green, an oasis of cultivation on an alluvial terrace stuck as it were to the slope of the hillside. Each terrace has its village with the polo ground as the main 'street'; each is a centre of cultivation with, in early July, the wheat just ripening. The path leads under swaying poplars and fruit trees, and without disturbing your equilibrium in the saddle you may reach up and pluck ripe apricots. And the fruit here is to be remembered. As a backdrop there are the mountains: the 24,000-foot mountains behind Baltit to the left and to the right the magnificent north face of Rakaposhi, unified in design and unbelievably steep: 15,000 feet in about as many horizontal. We reached Baltit, capital of Hunza state, for lunch on the second day. The Mir of Hunza, jovial and thick-set, and dressed in sports jacket and grey flannels, has wintered in Cannes and shops in Bond Street; his new palace is, apart from circular doorways, European in feeling. I must confess to a romantic disappointment at this lack of the proper trappings of a remote Eastern potenate. Our stay at Hunza

was all too short for we had to cross the river the following morning to lunch with the Mir of Nagar.

It is difficult to put one's finger on the difference between Hunza and Nagar, yet a distinct difference is felt. Certainly Nagar seems more verdant and perhaps, too, there is an impression of less squalor and a cleaner and more Alpine air. The situation of the Mir of Nagar's palace is superb. Lying on a hillock set off from the main mountain slope it is approached by a stately avenue of poplars. In the distance to the east is the 22,000-foot Golden Peak with a buttress of three Walkers piled on top of each other; in the other direction the valley appears shut off by the peaks behind Baltit. The day and a half that the Harvest Festival, a sort of Highland gathering, lasted was crowded and exhilarating. Tent pegging followed an archery competition conducted at full gallop; then the representatives of the villages arrived in a motley crowd and each village performed a ceremonial dance before the Mir. A birdlike hopping affair these dances to the tune of a ten-piece jazz-type band, whose youngest member was perhaps five, and the oldest sixty. The climax to the whole festival was of course the polo match, in which the home side narrowly lost 9–8, after a frantic hour and a half's play and no change of horses. The beauty of polo here is that there are no rules, and therefore no disputes, the chivalrous would receive short shrift and the lifeman would be at a loss.

Someone once complained to me that the trouble about articles on the Himalayas is that there is far too much of the approach march and far too little of the climbing. It is of course almost a truism that if you want to go climbing, the Himalayas is the last place to go, and for the participants the approach march is often the most enjoyable part of the expedition. And although we 'did' Hunza and Nagar in a breakneck six days, I for my part found it more continuously interesting and enjoyable than any other part of the expedition. Like many other parts of the Himalayas 'civilization' has begun to creep in: the Mir of Hunza has so many visitors now that he is thinking of starting an hotel; in a few years, it is said, the jeep road will have been pushed up to Baltit and Nagar. *Après moi la dèluge*, one cannot help thinking: it was good to have been before it.

We reached Nomal late on the afternoon on 9th July. Near Nomal you can cross the Hunza river by a classic Himalayan suspension bridge, this one for variety being made of birch twigs. Five miles upstream you turn up a nullah to reach the village of Jaglot and the approaches to the western side of Rakaposhi. While the rest of us went down to Gilgit to collect the rest of our kit, Fraser and Tissières left on the 10th to look for a site for Base Camp. We followed with the

coolies a day later, spending the first night at Jaglot. Above, the valley rises in a series of cultivated steps, and we spent the night at the highest one, a beautiful little alp in a forest of firs. It turned out to be only a few hours from the site of our proposed Base Camp—the topmost alp named Darakush: a necklace of small meadows linked by a stream amongst a chaos of boulders and birch trees. It lies in an ablation valley with the immense ice-fall of the Biro glacier, nearly twice as high as the Khumbu ice-fall, rising immediately behind, and 13,000 feet below Rakaposhi's summit. An enchanting spot this, perhaps as beautiful as Nanga Parbat's fabulous Fairy Meadow.

'History', Mr. Ford remarked, 'is bunk', but perhaps an historical digression is useful. Luckily the history of Rakaposhi is brief: remarkably so considering its accessibility and attractiveness as a mountain. In 1938 Secord and Vyvyan approaching from the west climbed a small peak of 19,700 feet at the end of the north-west ridge and were not impressed with the idea of the north-west ridge as a route. The 1947 Anglo-Swiss expedition, which included Secord, again approached from this side. They first attempted a route up the Biro ice-fall (enclosed by the north-west ridge and the spur of the south-west ridge). Objective dangers apart, it is attractive as a route because an easy corridor of snow leads from the top of the ice-fall on to the point where the south-west ridge proper and the south-west spur join, and above the crux of the latter, a 2,000-foot ice dome known as the Monk's Head. (Indeed for a few hours we toyed with the idea, until an ice avalanche swamped the whole of the head of the ice-fall.) Dismissing the south-west ridge proper out of hand, they then turned to the south-west spur approaching from its other side and pushed along it to reach a point at about 19,500 feet with a view of the Monk's Head half a mile away. This seems to have upset them (with the exception of Secord) and they retreated. They met with even less success on the north-west ridge and only got on to it after a long, difficult ('comparable to the Old Brenva'), and dangerous climb. Later on they inspected successively the south-east or Dainor face, the north face, and the east or Bagrot face; all were impracticable. Earlier in 1954 the Austro-German expedition, according to newspaper reports, had made a thorough inspection of the mountain and the only possible routes they thought were either too difficult or too dangerous.

All this was not very encouraging. It was clearly to be either the south-west ridge or the north-west. I myself would have plumped for the former as photographs showed that the Monk's Head wasn't more than 45°. While the north-west ridge, via the Point 19,700 feet, involved a longish and steep descent and after it you would

still be miles, over difficult ridge, from the summit plateau. However, the north-westers were backed up by the additional argument that to attack the south-west we would have to move our newly established Base Camp, and if we failed on the south-west we would have to move back again. And after all Darakush was such a lovely spot...

We managed to get away from Darakush on 16th July up the steep fellside behind the camp that leads up to the south ridge of the Point 19,700 feet. Our coolies carried magnificently, barefoot virtually, over rugged scree and rock to leave us at 16,000 feet. Only a timely administration of tea and acid drops by the General persuaded them to repeat this carry next day. By the 18th we were in a position to leave Band and Tissières camped below the final upsurge of the peak and we watched them climbing it as we continued relaying next day. As Band remarked on their return on the 20th, they had had a very good climb, that is to say, it was probably too difficult to take our inexperienced Scouts over, moreover the descent on the other side looked long and very steep and the ridge beyond difficult, too. In short this was no route. While the others returned to Base Camp Fraser and I went up to the top camp to climb the peak for the sake of the climb, for it is not often that one makes a third ascent in the Himalayas. We were robbed of it by a storm blowing up and beat a chilly retreat. So I have still actually to climb something in the Himalayas.

We were left with the south-west spur. By 24th July we had all moved round to our new Base Camp above the Kunti glacier (contained by the south-west spur and south-west ridge proper) and Tissières and Wrangham following the 1947 route had been up the couloir to the col on the south-west spur. Our new Base Camp at 14,100 feet was as attractive in its own way as Darakush: higher and more austere, a small patch of grass and flowering primula lost in a wilderness of moraines. Also more secluded, and shut in by a fine circle of 19,000-foot peaks each presenting an Eigerwand. On the 25th Fraser and I went up the couloir to fix ropes at the two awkward points and on the same day we established Camp I on the last moraines about 500 feet below the foot of the couloir—the coolies could carry up to here. The couloir was relatively easy although the rotten snow of the last few hundred feet was trying. By the 28th we were established on the col (Camp II) at about 17,500 feet with nearly a month's food. A long slope leads above to the shoulder of the spur proper; Band, Tissières, and myself cut steps up this slope and continued along the ridge to find a place for Camp III. The only possibility seemed to be a site almost on the crest of the narrow ridge: a ledge which we built from a mixture of snow and shale.

We had now to make an important decision about our Scouts. Over the course of the last few weeks we had come to like them well and indeed when unloaded they were fast and moved excellently. But as porters we were disappointed. The concerted load-carrying up the couloir seemed to have taken the stuffing out of them. It was only with difficulty that we persuaded them to carry 45 lb., sometimes less than we were carrying ourselves. There were many complaints and reputed illnesses. The climax came when the two laziest who had been on Nanga Parbat in 1953 began to boast of their load-carrying on Nanga. When asked how they accounted for their comparative failure in this respect with us, they replied, 'Oh, the Germans gave us medicine three times a day and you only give it us twice!' Logistically, therefore, it seemed hardly worth while persevering with them, and in any case the technical difficulties along the ridge appeared too much for their limited experience. We decided, however, to keep the two best, Alijehat and Alidad, to make up our numbers to eight. The General, too, had reached his limit, although he had made a sporting visit to the site of Camp III.

The position then on 31st July was that four of the party were installed at Camp III, and Band and myself were waiting at the col to move through with the two Scouts as soon as a site for Camp IV had been found. As it turned out this was the last good day for the next ten days, and indeed, of the first seventeen days in August, only two were really good. It wasn't until the 3rd that we were able to move up to Camp III, having to remake most of the steps on the ice slope. Here we re-roped: Tissières, Band, Alidad, and Wrangham, followed by myself, Alijehat, and Fraser fifteen minutes later. The first half-mile of ridge is typically Alpine except for the truly huge cornices. And those were to prove our undoing.

The second rope was following along to where the others seemed, through the light mist, to be having a rest. Such, however, was not the case; it was only when we were quite close that we saw there were only two: Wrangham and Alidad had evidently fallen through the cornice and Band had been able to practise the classical injunction of the textbook and throw himself down the other side. They must have been 20 feet from the edge and several tons of snow had collapsed, neither was hurt much and Alidad was soon brought up: Wrangham, on the other hand, was some 60 feet down and hanging over a small ice-cliff. There were the usual difficulties of communication, unropings, the cutting of Alidad's waist-loop to free him, that seem to be associated with such incidents. To recover Ted was more difficult. Pulling him up directly proved impossible and so he was lowered to the bottom of the small cliff and Tissières, by a fine piece

of climbing, cut down to him by a circuitous route. First his rucksack was brought up, then he came. And so we were all once more united at the top. Luckily it wasn't many minutes farther to the site of Camp IV (at 19,000 feet), but such is the time that these affairs take that it was twilight as we pitched the two tents and quite dark when Band and I finally turned in after another relay from the broken cornice. During the course of the accident, Fraser had gone back to Camp III to collect Fisher, ropes, and tents: afterwards Fisher escorted the two Scouts back to Camp III, followed later by Fraser (who had helped us to carry to Camp IV). There had been much wandering about the ridge that day.

Wrangham and Alidad were luckily only bruised, but it was clear that they must go down to Base Camp for a few days to recuperate. We dispatched them with Alijehat next day. We had also to recover all the odds and ends that had been dropped in the excitement—notably two tents. By a stroke of luck the cornice collapsed at the only point on the ridge where there was a snow terrace some 300 feet down—everywhere else it drops straight to the glacier nearly 5,000 feet below. At the end of a mammoth top rope I was lowered by Band to collect them. Looking up at the impressive bite out of the ridge, with large overhanging snow masses on either side, and the tracks of a respectable snow avalanche, I decided it was no place to linger, and I returned to the top as quickly as the difficulties and my condition as an overloaded Christmas tree allowed.

The week that followed was one of increasing irritation. On some days we would be completely cooped up in our tents by storm, but often it would clear in the evening and our morale would rise. Even the mornings maddeningly were sometimes fine until after breakfast and then down came the weather again. On other days there might just be cloud and wind, but with the tracks snowed over, it was impossible to tell how close you were to the cornices, and so progress was impossible. Here was a case for marker flags one felt. On one isolated and relatively fine morning Tissières and I went up the Gendarme remaking the tracks (those who had been at Camp III on 1st August had already been along the ridge and up it). The Gendarme rises about 500 feet above Camp IV and it is in its upper part an extremely thin corniced arête dropping away steeply on either side. It gives splendid climbing, traversing under its crest: a slope of more than 55° of snow on ice followed by a rather messy mixed rock and snow section. Once a track had been made, however, we were quite nonchalant about this traverse and even carried 60 lb. loads over it. If one remembered Longstaff's dictum that in the Himalayas slopes are steeper than they appear, then it is not

surprising that the 1947 party turned back here. For the sight of the Monk's Head from the Gendarme, still more than half a mile away across the gap, is intimidating. In fact when Tissières and I returned to Camp IV judicious tapping of the barometer of our morale would have sent it to 'unsettled'. Luckily a visit from the two who were still stuck at Camp III, and whose exiguous position had begun to affect them, helped by contrast, to send it up several points.

Finally, on 11th August we had the first of two really good days. We decided to put everything into leaving three of us established below the Monk's Head that day, and a small lottery decided it should be Band, Fisher, and Tissières. After so much snow the going was not good and the descent from the Gendarme seemed steep and insecure. There followed a long rising dome of snow with our feet balling-up at each step with pounds of snow. It was not until 4.00 p.m. that we reached a good spot for Camp V at 19,200 feet a little way above the col below the Monk's Head. Fraser and I returned buoyantly along the ridge to snatch a few minutes' basking in the glorious late afternoon sun in the remains of Camp IV. We could think more hopefully about our prospects now, but everything turned on how easily the Monk's Head went next day. For once the sun set through a clean cold sky.

The next morning, too, promised a good day. We were off in good time, carrying as much as we felt able. As I led up the last rocks and snow that form the top of the Gendarme I felt slightly nervous with expectation and hope: where would we see the others? So much depended on the Monk's Head. They were strung out over the whole length of a 120-foot rope and moving at a speed which suggested that they were certainly not having to cut steps. Over lunch at the camp we watched their continued progress after a short halt: it was steady until at about three-quarters height they were halted by a slight nick in the obvious route up the left edge. It must be a crevasse. They descended a rope length or two and then swung out to the right on to the face proper, a face dull with the glint of ice. When we left to collect some loads that had been left under the Gendarme nearly a week earlier, they were making slow progress up the ice, but by the time we were back at Camp V again they were out of sight—evidently behind the broad crest of ridge near the top of the Monk's Head. At about 4.15 p.m. they reappeared and descended rapidly, by 5.45 p.m. they had disappeared into the dip that forms the col below the Monk's Head, and half an hour later, exactly nine hours after they had set out, three rather weary men plodded the last few yards into camp. Over mugs of soup protracted into supper they told us about it.

They had had about six hours of good climbing: the slope they thought to be about 45° but whose angle did not relent for 1,500 feet, but out on the edge there were a few inches of snow on the ice and until they were forced out on to the face they had not had to cut steps. In short the steep part of the Monk's Head was up to our most optimistic expectations: not easy, but reasonable for load carrying without having to resort to fixed ropes. On the top part of the Monk's Head, about 21,000 feet, they had the familiar experience of heavy snow balling at every step. As the meal progressed through brews of tea, we turned to the question of the immediate future. It was a nice problem how best to dispose of our rather slender forces of five with no porters (we were at a loss to think of what could be keeping Wrangham back). The ideal solution, at this stage patently academic, would be for a party of six (or eight) all to carry in one go to a Camp VI at the top of the Monk's Head, leaving four up there: two to support an assault pair with one or possibly two more camps. The two (or four) remaining below the Monk's Head would be useful to back up in case of bad weather. With only five, however, it would clearly take two days to establish Camp VI and all five of us would have to stay above the Monk's Head if any purposeful assault could be made, and we would have to rely on only one more camp above Camp VI. By modifying our rations we thought we could get food and fuel for a week (plus four days of a more meagre ration) up in two carries. The problem of Rakaposhi was now defined, four days should see its solution. However, Thomme propose . . .

Although the morning of the 13th was fine, a slight lethargy was apparent in Camp: this turned itself into the argument that we had to modify our rations to make them lighter and in any case it was important to bring up some food that was still at Camp IV. Band and I went back for this; contrast our time of 40 minutes on the return with the 4 hours of two days before, such is the difference of a good track. As we came into the camp a storm blew up and for the whole afternoon the snow came in great gusts of wind and we retired hurriedly to our tents.

It began to look as if the weather had fallen into a rut again: wind and snow every day. One day Band, Fraser, Tissières, and myself did sally out through the low cloud to where we thought the Monk's Head's bergschrund was, but eventually thinking better of it we returned. We were soon down to a week's food, plus a few days' reserve, and the counsel of retreat began to be heard. The morning of the 16th made these counsels unanimous: a good deal more snow had fallen in the night and there was a sharp wind and stinging

snow for the after breakfast sortie. And so we decided to give it up.

We stumbled back through snow waist-deep at times. The re-ascent of the Gendarme gave some uneasy moments and a fresh storm blew up as we were on its traverse. We could not afford to leave anything of value behind and, from Camp IV on, some of us were carrying 80 lb. When leaving the top camp in the morning I had fondly hoped that we might be able to get down to Base Camp that day, but it was not until 6 p.m. that we arrived at Camp III to spend a somewhat cramped night. The ice-slope leading down to the col had to be re-cut and then we had to go up again to pick up our loads. In fact it was not until 6.30 p.m. on the 17th that we arrived at the little patch of grass which was Base.

Three rather surprised Scouts came out to meet us: no Wrangham, no General. We were a little alarmed, and peevish, to learn that they and three Scouts (including Alidad) had decamped to Gilgit. Until the General arrived next morning we could only speculate. It transpired that about a week earlier, Wrangham with the Naik (or Corporal) and Alijehat had set off to rejoin us but by the time they reached Camp I Ted's bruises were so painful that he was forced to come down again. The General accordingly took command and insisted that he go down to Gilgit. Luckily, as it turned out nothing major was wrong with him.

This brought the climbing part of the expedition to an end. We had been perhaps a little unlucky with the weather, but one has the impression that the weather in this area is Alpine in character with no long good spell, unless you are lucky. We had not in fact been much higher than the previous party, but the crucial question of the Monk's Head had been successfully solved. There is now a good, if difficult route, and a future party basing its plans on taking porters certainly no farther than our Camp IV (Camp III, incidentally, could be omitted) and equipped more lightly should be able to complete the ascent. It may be, too, that local men from Jaglot would prove better porters, for I have the impression that our Northern Scout Hunzas, being better educated, considered themselves gentlemen and therefore should not carry much. This indeed is the only reason I can put on our comparative lack of success with them, for they were well handled by the General, and were well fed and equipped. One does not like, too, to make these strictures of such likeable people. Logistically, a month's food from the col would seem to be the upper limit; all that is then needed is good weather.

THE BATURA GLACIER

Report of the German-Austrian Himalaya-Karakoram Expedition, 1954

MATHIAS REBITSCH, GERHARD KLAMERT, AND DOLF MEYER

Translated by ELEANOR BROCKETT *and* ANTON EHRENZWEIG

The Austro-German expedition had intended to attempt Rakaposhi, but found on arrival that a party from Cambridge, under George Band and Tissières, had a prior claim to the south-west approach. They explored other approaches but found them impracticable. Splitting into groups, they then set out to explore the Baltar, the Kukuay, the Batura, the Minapin, and the Hassanabad glaciers. Rebitsch has given us the story in detail of their doings on the Batura ridge.

Our thanks are due to the German Alpenverein for permitting us to use it.—EDITOR

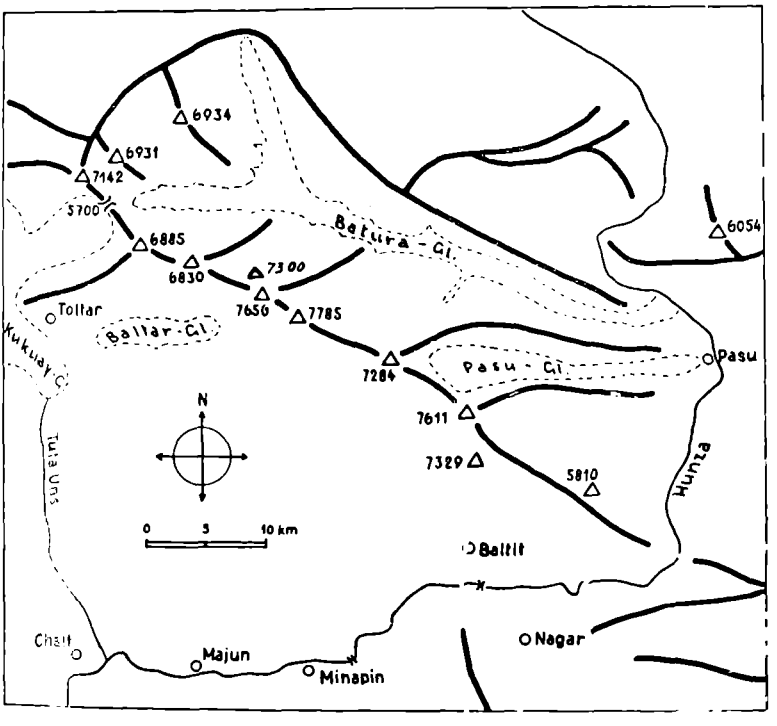
WE FIND THE ROUTE THROUGH THE ICE-FALL

ON 20th July we camped among the boulders before the alm huts of Put Mahal (11,000 feet) opposite the unnamed snow peaks of the Batura ridge, and scanned our projected ascent route through our precision binoculars. The inaccessible rock faces yielded but one level gap: a wildly torn ice-fall forced its way for 6,500 feet between the sheer soaring cliffs, rising more gently in its upper portion to steep hollows and terraces up to the last glistening *Firn* flanks of the unnamed 'seven-thousanders'. If we could force this ice-fall the problem of the ascent as far as climbing technique was concerned would be solved.

Avalanches crashed down from the gigantic cliffs to the broad glacier basin more than 10,000 feet below, the greatest of which scattered its dust of ice over the moraine wall and into our Base Camp which we had set up on 21st July. Our route through the ice-fall seemed threatened from both flanks by overhanging ice 'balconies'. The cold desolation of the scene and the constant danger from avalanches with which it was threatened far surpassed the grimness of the Baltar valley.

When the route had been twice reconnoitred Bernett, Sha Khan and I put up the first tents of Camp I on a narrow *Firn* terrace among the crevasses. In the late afternoon of 24th July Bernett, Sha Khan, and I burrowed a deep trail through the wet *Firn*. It was strenuous work. After much wandering among a maze of yawning chasms and snow bridges we were finally halted by a bottomless crevasse 30 feet wide. The only chance of negotiating it was by way

of a fragile snow bridge, but this was not to be risked, even with the best possible belay, for if the bridge were to collapse the climber would be buried beneath the masses of snow carried down with him. Beyond this enormous crevasse there lay others, each one more gigantic and forbidding than the last. There was no hope of further progress the same day, but we decided to make another attempt to cross our 'problem crevasse' the next morning when the snow would still be frozen hard.



In the evening Martl and Dolf with a troupe of porters came up to join us in Camp I. Their enthusiasm was infectious and they put new heart into us.

25th July. In the cold of the morning the snow was as hard as a board. Securely belayed I made my way across the tenuous snow bridge. Everything went surprisingly well and there was no hitch. We spanned the chasm with a permanent rope like a suspension bridge. I tried to advance by a protruding *Firn* rib beyond, but it led only into space; Martl climbed over another nearby, however, and was soon well away, leading with Dolf through the ice-fall, across fragile snow mushrooms and over thin walls and sharp edges to a safe camp-site on easier terrain. Suspended above the maze of the ice-fall a snout of ice protruded from a granite wall, ready to

break off at any moment. It was christened portentously 'The Gentleman Opposite'.

Dolf had brought the news that Zeitter was still laid up with a high temperature at Put Mahal. Klamert would have to stay behind to look after him. With a heavy heart our doctor sahib decided that he must descend to attend to the patient.

26th July. We went up with the porters to establish Camp II (15,750 feet). Scarcely had we emerged from the ice labyrinth into a safer area than 'The Gentleman Opposite' crashed down. We were no greenhorns, but as masses of ice shot down over the smooth rock face, burst asunder, flattened seracs still long after released a wave of avalanches in their train, we began to feel that our contact with the primeval forces of nature was too close here for comfort. From the position of the avalanche course, however, we were able to conclude that ice falling from this direction would not endanger our ascent route in the future. We were consolidating Camp II. Martl took the Hunzas back to Camp I. The weather had changed and mist and driving snow had set in. Dolf and I reconnoitred the continuation of the route on the crevassed and avalanche-threatened slopes covered with deep loose snow.

27th July. Bernett, up again from Base Camp with a column of snow-encrusted porters, appeared at the early hour of nine. Camp II was now sufficiently provisioned. Sha Khan led the porters back. Dolf and I continued with our search for a way through to the first plateau. The mountain-world around us was gigantic, intimidating, dreamlike. We discovered a passable ramp which led up through the last ice barrier and soon we were standing on the terrace. We decided on the site for Camp III (16,400 feet), and turned back. The way to the summit was open.

On 28th July I had a rest-day in camp. Transport through the danger zone between Camps I and III was in the capable hands of Klamert and Zeitter. I could push on with the assault with an easy mind. Bernett and Meyer were to occupy Camp III on this same day; Martl was bringing the porters back to us in Camp II.

On 29th July Martl, Sha Khan, and I moved up to Camp III. Meyer and Bernett could be seen as two minute dots on the steep slope 2,000 feet above us. The sun beat down with a paralysing heat, but the two gained height fairly quickly. In the late afternoon they brought back the news that they had found a safe spot for Camp IV at a height of 20,000 feet.

On 30th July Martl, Sha Khan, and I with the porters Seppl and Suleiman established Camp IV. For days on end the sky had been cloudless, and now the snow surfaces reflected a throbbing heat. The

20,000-foot peaks that had been such an impressive sight from Base Camp were now on a level with us. But the 'seven-thousanders', the peaks above 23,000 feet, that framed the shallow basin of the second terrace still stood 5,000 feet above us.

31st July. At 3 a.m. Martl and I crawled out of our down sleeping-bags. In the ice-cold starry night we groped our way across the level glacier. Our goal was the shallow saddle behind the basin from where we hoped to gain a view of the slopes leading to the summit. It was bitterly cold and Martl complained that his toes were completely numbed. After an hour and a half he had to return to camp. I went doggedly on alone, stamping ahead until I got to about 20,700 feet. Here I took off my boots and massaged my toes. But it was no good—I, too, had to turn back. A little later the sun was beating down on the over-heated tents again for another long day. Bernett and Meyer had come up from Camp III with porters, and Martl took the Hunzas down. We were all feeling the effects of the high altitude. If we moved thoughtlessly in our sleeping-bags at night we had to gasp for air. Only Dolf seemed to be immune. He went on doing his P.T. exercises, turning somersaults in the snow, just as if he had been in the gymnasium at home. We had to warn him not to break his neck before the time came to launch our attack on the summit.

1st August. Meyer, Bernett, and I set off saddlewards to establish Camps V and VI some few hundred feet higher up. I was actually supposed to wait in Camp IV for the arrival of the porters. After half an hour I saw Sha Khan with two porters coming up to the camp. Dolf and Paul went on trail-making towards the saddle. For many hours I could see them burrowing their way laboriously onwards, leaving a deep trail behind them. In the evening two Hunza porters staggered slowly down from Camp V; they handed me a note from Bernett and dropped exhausted into their tent.

2nd August. Storm and driving snow. Martl came up from Camp III with some bad news: Klamert had just got beyond the ice barrier with seven porters when the seracs had collapsed. Gerhard Klamert reported later:

> On 29th July at 4-30 a.m. I set off from Camp I with eight porters on two joined ropes. There was not the slightest breeze in the ice-fall; the air was quite still. Now and then a rumbling came up from the depths of the glacier. We reached Camp II at 9 a.m. I decided after a short rest to take the loads still farther up to Camp III and then to descend again to Base Camp. The approach to Camp III had become far more difficult than it had been earlier. The serac barrier had disintegrated to some extent, but the greater part of it was still standing as we wound our way round the 8-feet-high towers, shortly to arrive on the terrace near Camp III. It was already past 1 p.m. and we could not stay long. After exchanging two porters

we made our way down again. I was the last man on the rope. The column picked its way down past the tall seracs and over the ice-blocks. The going was slow. I was some five yards away from the last great serac when suddenly the whole slope began to move and the ground under our feet slipped away. The towers crashed down with a roar and everything was smothered in snow-dust, while the bridge on which I was standing collapsed under my feet. I slipped downward with the debris for about fifteen yards. The porters yelled, the rope between us was at full stretch and, preoccupied as I was for the moment with my own predicament, I had no idea that the man in front of me was hanging suspended over an enormous crevasse. I was buried up to my waist and the first thing I did was to roll off with my hands a huge block that lay on my chest. With the help of my ice-axe I then succeeded in working my way out and at once looked round for the porters. My call was answered with 'porters tike' and as soon as the clouds of snow which hovered over the ground dispersed, the porters' shout of thanks, 'Ya-Ali', was to be heard. As the cry was repeated for the third time, I caught myself joining in. Khambar was freed from his awkwardly airy position and I took a look around to assess the situation. For as far as the eye could see, that is, for a distance of about 150 yards, the entire barrier had collapsed. Only then did I realize what a narrow escape we had had.

It was indeed a miracle that our comrades were safe. But more trouble was in store, for on the morning of 2nd August the occupants of Camp III were startled by powerful tremors in the ground beneath them. Fresh cracks opened up right through the site. Through the constant movements of the glacier the porter convoys and the spear-head group were in grave danger. I would have to go down myself to examine the situation in the danger zone and to make decisions accordingly. Through dense mist and drizzling snow Daud and I took our porters down to Camp III. Martl stayed up in the tent to keep open communication with the climbers in Camp V.

3rd August. Snow storm! With one Hunza I climbed cautiously over the barrier and across the expanse of debris from the crumbled seracs down to Camp II. The transport service could not be continued. In the heat of the past days the glacier had burst open everywhere. A fresh crevasse separated the two tents of Camp II. Another cut our ice-cave in two. We dug out two new sites with our axes and moved the tents farther up. 4th August. From Camp II we could see as tiny dots a convoy coming up. I left mail and instructions in the tent: 'The shuttle service between Camps I and II is now permissible only in the early morning hours. Transports are to be discontinued after this convoy.' I started upwards with Djoard Beg. It was a nerve-wracking hour we spent below the crumbling ice barrier. Who could tell when the next great slide was going to occur? In Camp III we found our Pakistani companion, Mr. Daud, sitting quite alone performing his religious exercises in the confined space of the tent while resisting the temptations of our tinned ham. Our supplies of beef, permitted by Allah, had already been exhausted. After some strenuous trail-making I arrived in Camp IV

Photo Schneider

The Batura Wall from the north-east. Highest peak (25,000 ca.) in centre, peak ascended

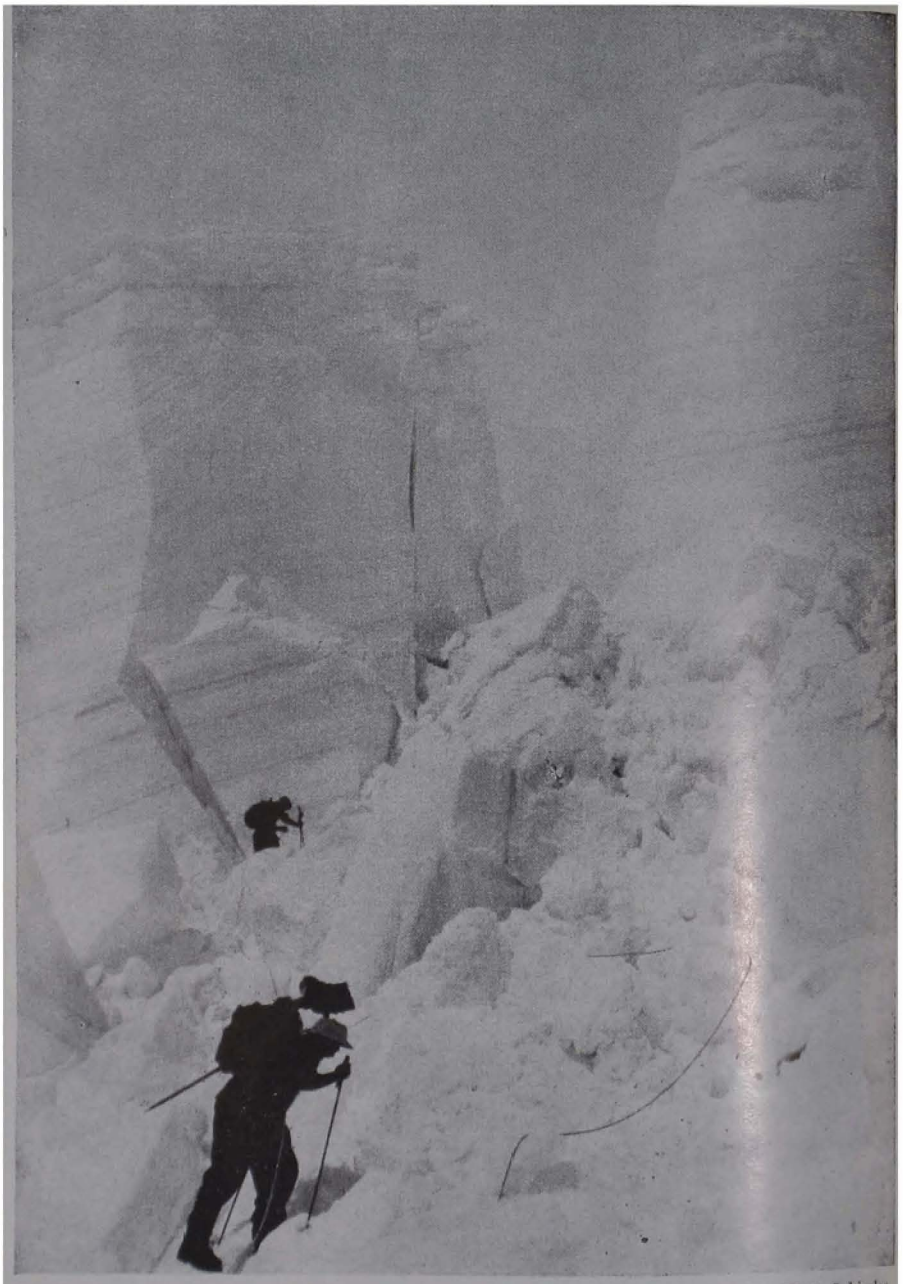


Photo Schiesler

Working through ice-fall between Camps II and III. All the seracs were crumbling.

with Sha Khan and four porters before nightfall. The weather had cleared and I announced to Bernett, Dolf, and Martl my assault plan for the next day. However, they remained unconvinced that there would be any long-standing improvement in the weather and wished next to attack not the highest, but a safer 'seven-thousander'. It was hard for me to submit to their arguments, for all my thoughts and plans had been focused only on the highest peak. We arrived at a solution acceptable to all: Martl and Dolf were to start off in the morning for their 'safe seven-thousander', Bernett was to bring up the last loads from Camp III, while I with Sha Khan would observe Dolf and Martl's assault from Camp IV. By the day after the morrow Bernett, Sha Khan and I would be fully rested and ready to continue the assault on the highest Batura summit.

THE SUMMIT

Here is Dolf Meyer's account of the ascent to the summit: 'All details had been discussed and the assault rucksacks packed the day before. Accordingly, at 3 a.m. on 5th August Martl, Schliessler, and I crawled out of our tent. In spite of the doubtful weather we were resolved to attempt the summit. Shouting a greeting to Mathias and Paul, we stumbled off wearing short skis and carrying torches through the *Bruchharsch* (snow glazed over with a brittle ice crust) in the direction of the saddle. After 2½ hours we reached the south *arête* of our "seven-thousander". Fine snow was falling. Here we exchanged our skis for crampons. After a brief consultation in view of the deteriorating weather we climbed up direct to the sharp-edged ridge, the first hundred yards above the *Bergschrund* being very steep and taking us over sheer ice. Snow eddied round us and in the half-light of dawn ghostly banks of mist came drifting across from the west. Sharp and steep, the partly corniced ridge before us reared up into the unknown. To the left a high wall of granite, to the right an ice-armoured slope! As we approached a stiff swing upwards, we would frequently sink waist-deep into the new snow. Our strenuous trail-making made us very conscious of the thinness of the air. An occasional downward glance through gaps in the mist indicated the growing altitude. A short rest and a few draughts from our field-flasks revived our flagging spirits. At about 10 a.m. after negotiating a very steep ice-covered rise in the ridge I thought I could make out the summit, but I said nothing to Martl about it for the moment. But at 10-30 a.m., after another few hundred yards of climbing we were indeed able to shake hands on top. The altimeter registered 24,310 feet, but when in Camp V again we observed deviations up to 500 feet up or down, we assumed an

altitude of 24,000 feet. On the summit we fastened the flags of Pakistan, Germany, and Austria to the ice-axe and Martl took photographs so far as the weather allowed. Naturally we felt highly gratified to have achieved this success for our expedition.'

The descent in the bad weather was very dangerous as the surface layer of fresh snow tended to break away beneath our feet in small slabs and avalanches. By about 2.30 p.m. we had put the 3,600 feet between summit and saddle behind us. Stamping out a new trail we sought our way back to our starting-point—Camp IV (20,000 feet). Mathias came to meet us with hot drinks and gave us a warm welcome.'

Mathias Rebitsch continues his report: 'In the early afternoon I made out two dots on the saddle. They were moving down very slowly. I tucked two flasks under my arm and together with Djoard Beg went to meet Dolf and Martl. "Did you reach the summit?" "Yes." There was no need to say more. I was stirred in spite of myself. After so much reconnaissance work, foul weather, and setbacks through illness, the climbing team could at last claim a tangible success. Our first " seven-thousander ", an ice-covered peak of impressive dimensions, had fallen! '

' Before Camp IV we ran into Paul coming up from below with a troupe of porters. Subdued congratulations. Paul began hesitatingly: "I've brought the mail, but first I must break the news to you. There has been a fatal accident in the Hunza gorge. Heckler is dead." All joy in our victory evaporated. We lay silent in our tents. It was hard to grasp this tragic fact. All our thoughts were with our dead friend, the best of climbing comrades.'

A DANGEROUS DESCENT

6th August. It snowed throughout the night. A wall of snow was growing round our tents. Camp V was established and the assault team for the highest peak (25,600 feet)—Bernett, Sha Khan, Dolf, and I—stood ready. But an ascent was now quite out of the question. One day before our attempt on our highest objective was to take place, we were overtaken by catastrophe in the form of the weather. It went on snowing incessantly. Avalanche snow piled up on the slopes and the way down to Camp II over the 1,000-foot precipice was probably already barred. Nevertheless I hesitated. I still cherished the hope that the clouds might part and that another assault might be possible. But the snow drizzled down from the heavily laden clouds with infuriating steadiness. At 1 p.m. Dolf and I climbed on to the precipice in order to examine the layers of snow and assess the danger of avalanching. We decided that the descent could be risked if

it were taken vertically. At 3 p.m. the tents were struck and packed. In driving snow and dense mist our withdrawal began. We had joined five ropes together and roped up the porters. Martl took up his position in the centre in readiness to belay. Bernett was last on the rope. I led, groping my way ahead to test the snow, lay the trail, and make any decisions that might be called for. Dolf, as second man, could direct and belay me. Thus did we wriggle down, like an attenuated worm, through the endless masses of loose snow. Now and again the porters slipped and fell, but Martl and Paul held them fast. Twice a layer of snow detached itself from the slope beneath my feet. But all went well. At 7 p.m. the tents of Camp III loomed out of the mist and Mr. Daud served us his last tea ration.

7th August. We had now to tackle the worst danger zone—the overhanging ice barrier. Once more the glacier had pushed forward a little beyond the break in the slope. At any moment now the next collapse could occur and no one could say exactly when. But there was no alternative; we had to get through and could only trust to luck.

The tents of Camp III were bound on to the bulging rucksacks of our six good Hunzas. Cautiously we approached the barrier. The old route over its vertical drop had fallen in. We were looking along an overhanging wall of snow many hundreds of feet wide and down to an area covered with ice debris. An ice-axe was rammed into the *Firn* as anchor and Dolf lowered me on the rope down over the drop. But having descended thus far a yawning crevasse still separated me from the other side. I finally managed to snatch a grip and pulled myself across to a foothold. We stretched a rope as a handrail from above across the crevasse; then came porter after porter dangling down, some of them upside down, toppling over and dragged on by the weight of their enormous loads. Dolf and I tugged them across the chasm. None of the Hunzas showed any anxiety or nervousness; they certainly were good chaps. Martl being the last man had to *abseil*. The greatest technical difficulty was now behind us, but the danger from falling ice had still to be reckoned with. If the ice-fall kept quiet for another hour we should be all right. We groped our way onwards through the snow-covered maze of ice-blocks and at last got to the first safe hollow. From then onwards the descent became easier. The tents and equipment of Camp II had to be taken along, too. The Hunzas were now carrying up to 110 lb., and the sahibs' rucksacks, too, were swelling monstrously.

The subsequent descent was accomplished according to plan, along beneath the threatening bulges of the hanging glaciers, across *Firn* wedges and labyrinthine crevasses to the torn-up 'ski-slopes'

above Camp I. The mighty towers and great blocks had fallen and melted away like wax. Our former trail here was barely recognizable. Again and again Klamert and Zeitter had to force a new way through.

At dusk we reached the flowery meadows and before nightfall the blazing fires of Base Camp. Thanks to the exemplary team-work of sahibs and porters this perilous retreat had been successfully accomplished.

In the morning Zeitter with all the porters brought down the last loads from above Camp I. And then we were all together again, safe and sound, among the flowering shrubs. The load would now have been completely off my mind had it not been for thoughts of Karl. A simple cross of birch now stands above the camp: 'Karl Heckler d. 26.7.1954.'

In accordance with the programme of the scientific group we had ascended one of the highest peaks in Batura, their main research area. Our expedition had been planned on the principle that the work of the climbers and of the scientists was complementary. And even if our summit achievement was not exactly spectacular, we had given of our best, had aimed high, and had done all that was humanly possible. The effort itself deserved credit.

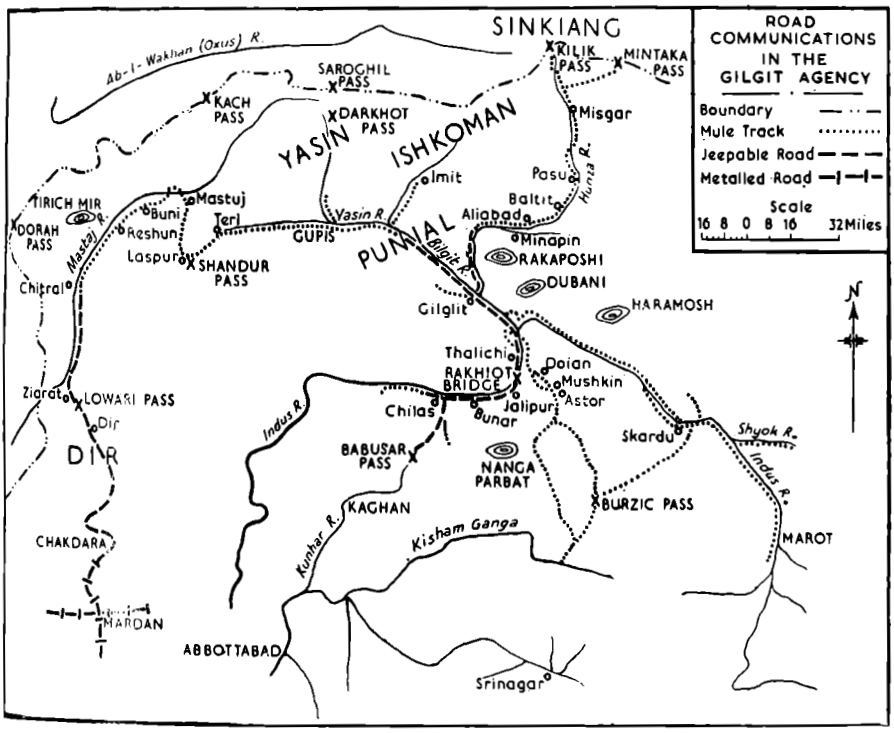
WE TAKE OUR LEAVE OF THE KARAKORAM

While Klamert and Zeitter continued to penetrate into the remotest recesses of the Batura glacier, Martl, Dolf, and I as the main party proceeded with the yaks and porters down the valley; once more we enjoyed the contrasting beauty of this mighty ice stream in its unique setting. After the enervating heat in the snow basins we refreshed ourselves in a moraine lake at an altitude of 11,000 feet, its bright blue waters reflecting the icy peaks around. We swam close to the glaciers and in turn basked on the hot sand. Then we rode back through the Hunza gorge. At the head of the valley behind Pasu the pyramid of a 'seven-thousander' pointed dagger-like into the cloudless sky. The grain was already harvested. Crowds gathered in the village squares to watch the departing *Germanos*. The Lambadars greeted us and with lightning speed assessed the value of the gifts we bartered for eggs, butter, and chupattis. We had had no fruit for a long time and fell greedily upon the now plentiful supplies of apricots, apples, and grapes.

From Sareth onwards the Hunza river has cut a narrow gorge into the rocks. The uncemented rock path narrows in places to a bare 12 inches as it clings to the precipitous walls. We passed the

spot where Karl Heckler had fallen to his death, and this opened once more the wound of grief but scarcely healed. Silently honouring his memory we set up a cross of birch which would later be replaced by a memorial tablet.

Once more we were guests of the Mir of Hunza. On the Pakistani Independence Day bonfires blazed above the Hunza gorge as is the German custom at solstice. We were invited to the celebrations and sat on a carpeted stone wall bordering the polo field, the ancient fortress forming the backcloth to the colourful scene. A sword-dance marked the climax of the celebrations.



Dr. Pillewitzer and Dr. Pfaffen of the scientific party had gone off long since to Nanga Parbat to study the Rakhiot glacier. Dolf and Martl made a last excursion to the farthest unexplored corner of the Hassanabad glacier. Then came the business of disbanding our Hunza and Nagar high-altitude porters who for three months, through good times and bad, in danger and adversity, had served us faithfully and well. It seemed strange that we should now suddenly be going our separate ways. Our best and most devoted porter, young 'Seppl', and the cook 'Simmerl', who proposed calling his eating-house in Gilgit 'Hotel Germany', accompanied us to Gilgit. There

we parted also from our friend Sha Khan. Soon the aeroplane was carrying us past Nanga Parbat again and over the green plains of the Punjab. The mountain waste of the Karakoram gave place to woodland and fields, villages and towns. Civilization claimed us once more.

In Rawalpindi we paid our official call at the Ministry for Kashmiri Affairs. We were promised every support should we come again. We spent an evening of friendly comradeship in the company of the successful Italian team from K2 and the British who had been on Rakaposhi. In Lahore we were entertained by the Pakistani Mountaineering Karakoram Club and were elected honorary members. On arrival in Karachi on 5th September we were surprised to be met by representatives of the German-Pakistani Cultural Association, by the Chargé d'Affaires of the German Embassy, Dr. Schmidt-Horix, and Dr. Hartlmaier of the Austrian Legation. On 8th September the two diplomats presented each member of the expedition to the Prime Minister of Pakistan, Mr. Mohammed Ali, who presented each of us with a silver medal and assured us of his enduring goodwill.

In company with the Italians from K2 we were soon sailing across the Indian Ocean. In Egypt the pyramids gave us a last opportunity for a little scrambling. Soon we were home again and the great experience of our Karakoram expedition was at an end.

CHO OYU 26,750 FEET

HERBERT TICHY

Translated by Barbara Tobin

At the beginning of September, last year, we left Khatmandu, the capital of Nepal, and headed for the distant Cho Oyu, in the North-East of the country.

Weeks of walking led us over hot hills, and through dripping jungle, where the damp air must have been near saturation point. Our path, which led east, took us interminably up and down; we crossed the valleys of many streams leading south, and had to climb one pass of 14,000 ft. It was not until we reached the valley of Dudh Khosi, the milk stream, that we could turn our steps northwards, towards the great Himalayan Chain.

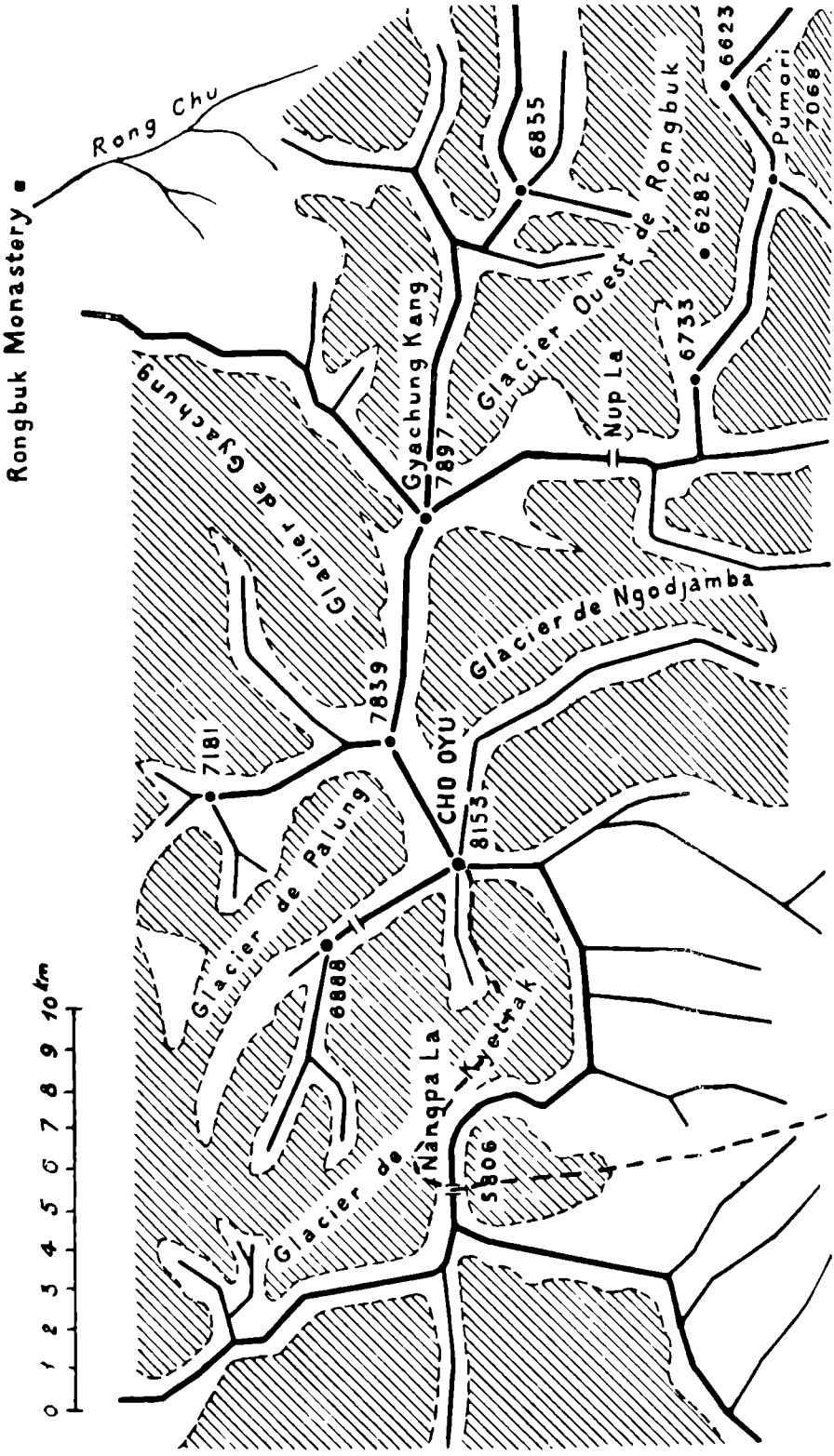
Unfortunately the weather was not ideal; the monsoon was not yet over, each day producing rain and mist, which over 13,000 ft., fell as snow. We gradually approached the giants of the main chain, but they were well hidden behind cloud, unveiling only for a few moments at a time. We had not yet seen our objective, although we had had two good views of his neighbour Everest. We hoped the cloud defences were weakening each day, and that soon the blue sky of Tibet would win through.

On the 10th September, we reached Namche Bazar where we made the last of our preparations. Only four more days' march separated us from the foot of Cho Oyu. The countryside got lonelier still, and a long horrible stage over moraines and hard frozen glacier brought us to the Nangpa La, the 18,000 ft. border pass, with its fabulous view of Tibet. We turned east down a side valley, and suddenly Cho Oyu stood before us in his might and silent magnificence.

We still knew very little about him. Would we succeed in finding a practicable route up his ice bound slopes to the sparkling, untrod summit? Or would we have to acknowledge, after vain efforts, that it would be impossible for our small team to climb him? My two Tirolean companions were Dr. Helmut Heuberger and Engineer Sepp Jöchler. We also had seven Sherpas under the faithful Pasang.

The porters and yaks that had carried our loads thus far turned back, happy to leave the icy cold. We pitched our Base Camp at a suitable point; now the attack on the mountain could begin.

The events of the next days were unexpected and astounding. I had thought that we would have to treat the mountain like a difficult problem, exploring flanks and ridges, and perhaps only


Rong Chu
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Pumori
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Glacier Ouest de Rongbuk
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Nup La
Gyachung Kang
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Glacier de Gyachung
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7181
CHO OYU
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Glacier de Ngodjamba
Glacier de Palung
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0 1 2 3 4 5 6 7 8 9 10 km

9B

after two weeks' search find a route that would seem possible. Privately, of course, I hoped that we would be able to take the mountain unawares.

In the event, however, Cho Oyu surprised us. From Camp I which we had pitched at about 19,000 ft., we found a good route to the glacier-covered west flank, and pitched Camp II at 20,200 ft. Sepp here decided that he was not sufficiently acclimatised, and wasn't feeling at all well so descended to Camp I. Helmut was provisionally at Base Camp looking after supplies.

From Camp II a steep snow ridge led upwards. I, with four Sherpas, started up it in fine weather, very deep snow making it hard, tiring work. The view to the north was magnificent and encouraged us in our ascent. At three o'clock we reached a wall of ice which was the beginning of a big break in the glacier. We already knew that this break would be the main problem in the attack on the mountain, and had reckoned on pitching Camp III here. We expected to have to spend many days searching for a way through the ice labyrinth, for we knew that it was here that Shipton's expedition to Cho Oyu in 1952 had been repulsed. He had stated then that it would take 14 days to find a flaw in the defences of the break, and had turned his attention to other peaks.

The Sherpas set to work quickly. Two put up the tents, and our cook bestirred himself to make tea. We had gained another 1,300 ft., and were now at 21,600 ft. I was tired and looking forward to a hot drink, but Pasang was so eager, like a dog on a fresh scent, that he wanted to lose no minute in getting on. While I was still panting from our long strenuous ascent, he fetched ropes, ice and rock pitons, draped them round himself and Ajiba and looked questioningly at me. I could have waited and postponed the search for a route until the morrow which would have been the easy, reasonable way out, but I silently roped up and knew that I was really doing the right thing.

It was good to be back on a rope with Pasang and Ajiba again, friends of my previous expedition. Ahead of us the ice towered 200 ft. vertically above us. Were we going to master this pitch, and if so, what would we find beyond? Pasang led; every one of his movements showing sureness and experience. The rope slid slowly through his hands. At the foot of the ice wall, our tents were now ready, and far below we could see Camp II like a tiny toy, with our tracks like thin threads in the undisturbed snow. A cry from Pasang interrupted my thoughts: 'No way through'. He went round the steep ice wall to the left, and started to struggle upwards. Again he disappeared from view, and then called 'Follow'! The

sheer ice face arched back, until we were standing on a flat shelf. Ajiba too joined us. The break no longer appeared impassable, although we were not yet absolutely certain it would go. Another ten minutes of hard effort, and the steep giddy slope that leads up to the summit lay open before us. I could hardly believe our luck. Perhaps we had been fortunate enough immediately to find the only possible flaw—perhaps the break had altered since Shipton's attempt. In my wildest hopes I had not thought to pass so quickly and easily.

We fixed ropes to make the difficult passage easier for the following day, and while Pasang and Ajiba finished off I went back to camp. The Sherpas ran towards me asking excitedly if there was a way through. I nodded happily. I was very tired, so they took my crampons off for me, and pressed a bowl of hot tea into my hands. I photographed our track which led up towards the heavens, and the two Sherpas, as small as ants, still working away. I did not know that it was to be the last photograph I would take for a week, and that, only two days later, with frost-bitten hands, I would struggle past this camp filled only with a wish for warmth and life.

During the night a storm tore at our tents. At daylight it was obvious that we could not go on, but must wait for an improvement in the weather. The following morning dawned cloudless, and the wind and cold were bearable. The steep step which was still in shadow was not pleasant, but we were soon in the sun and slowly gaining height. It was quite a struggle to breathe, but I was not alone in having trouble for the Sherpas too were having difficulty—and in any case they were carrying much heavier loads.

At 4 o'clock we pitched our tents at about 23,000 ft. Two Sherpas went back to Camp III. Pasang, Ajiba and Angnima stayed with me. The evening was not very pleasant, for there was an icy cold wind which drove a thick cloud of snow before it. But there are many such evenings at that height, and there were no grounds for worry. While we sipped our hot soup in the tent, we made plans for the following day. 'Tomorrow, without a doubt, we will reach the summit' beamed Pasang.

I fell asleep without having to take a drug. Waking was an unbelievably bad dream. An invisible force was pressing the wall of the tent into my face, robbing me of air to breathe. A hell of cracking whistling noise surrounded me. A few seconds passed before I realised that it was in fact no dream, but reality. The storm had broken the tent pole, had torn the pegs out of the ice, and now whipped at the tent as at a loose sail. It was pitch black so must still be night. Pasang too had been wakened. We decided

The western side of Cho Oyu from a camp site at about 18,000 ft.

that our rucksacks were heavy enough to hold the tent to the ground and tried to compose ourselves again: it often follows in the Himalaya that a stormy night is succeeded by a clear quiet day. But when daylight filtered through the canvas the storm increased in fury. And it became even harder to hold the tent down.

'Shall we wait? Or shall we go down?' asked Pasang. But first we had to see how things were with the two Sherpas in the other tent, and have a look at the weather. It took a lot of effort to get out of the flapping tent. Pasang got out first, then I managed it, legs first, though I had not noticed that my mittens had come off.

All hell had been let loose outside. The sun had risen perhaps two hours earlier and was shining out of a cloudless sky. A storm of terrible power such as I had never hitherto encountered whipped over the steep snow face. It was impossible to stand upright and the unprotected parts of our faces hurt as though they were being beaten. 'I've never seen such a storm', cried Pasang, 'We will all die'.

The other tent too was flat; beneath the flapping surface the bent figures of Ajiba and Angnima were discernible. They too were creeping clear. To go, or to stay? We did not know which was the safer course. I secretly agreed with Pasang that we would all perish. Suddenly the wind got under the Sherpas' tent, and filled it like a sail, trying hard to tear it away. I threw myself on to it, to save it. My hands, that I had hitherto kept in my trouser pockets, sank into the snow.

Events followed like lightning; they cannot have lasted more than two or three minutes. First my hands became white and had no feeling. I looked for my mittens in our tent, but it was flogging about like a wild unruly animal. I rubbed my hands and clapped them hard together, but the storm blew with unrelenting ferocity on to them. I cried out with pain and faintness, and now only did the Sherpas realise my trouble. Pasang and Angnima, who were also suffering from the cold and wind, unbuttoned their trousers and tried to warm my hands between their thighs. Meanwhile Ajiba found my gloves in the tent. I put them on, but I realised that my hands were frost-bitten. An almost panicky fear took hold of us all. We must get out of this inferno where the cold could kill us in a bare hour. We hurriedly stuffed a few things into our rucksacks—values change, a scarf is worth more than a roll of film. The tents we left behind; perhaps they could be collected later—now it was a question of life and death. A Sherpa put on my crampons for me, then we roped up and the retreat began. The

wind howled around us, hurling us flat, and throwing great lumps of snow and ice at us. And all the time the sun shone out of a clear blue sky.

As we got lower, the power of the storm eased; we secured ourselves doubly firmly when we reached the steep step, and came to Camp III. Here we found the Sherpas who were to have brought up the fresh supplies, together with Sepp. He told me later that he had got his good form back and wanted to join in with the attack on the summit. During the storm he had spent several hours, without success, trying to master the ice wall. But the storm had held him back. I showed him my hands, and without pause, we descended to Camp II together with Sepp and the other Sherpas. There the storm was not so bad—the route along the ridge was easier, and without a rope, alone and unhappy, I staggered into Camp. My hands had become misshapen and hurt very badly.

Helmut, who had climbed to Camp II, gave me a series of injections—the first of many. Sepp looked after me incredibly patiently, for I could not undo a button, or eat anything even without help. Pasang and the others wanted to leave for the next Camp down so as to give us more room. I could not give him my hand in farewell, and when he saw that he bent down and kissed my cheek. Apart from the torment of the pain and misfortune, I experienced a new feeling during the days that followed: the wordless friendliness and comradeship that united us and never let us feel alone. But during the endless night that followed, there seemed to be no hope for me, only the recurring thoughts: my hands are dead: the summit is lost.

When we were all united in Camp I we held a council of war. My hands would need medical attention, but the nearest doctor was in Khatmandu, over three weeks' march away. Perhaps I would suffer more en route than if I rested and waited where I was. We decided that Pasang, with two or three Sherpas, should descend to collect the rest of our provisions. During this time we would wait on in Camp I. It was idyllically situated with a lovely view not only of Cho Oyu, but of other glacier giants. I could devote myself to looking after my hands in the warmth of the tent. Sepp and Helmut would try one or two of the mountains around us. And each day we could observe Cho Oyu and decide from the length of his snow plume, the strength of the storm at the summit. We had always known that our main problem would be weather. The sky was almost always clear blue, but each day the wind got wilder and more terrible. We knew that only an almost windless day would make an ascent possible for now it was almost as cold

as spring. But gradually we began to believe in our luck and to hope again, as we awaited Pasang's return with impatience.

Sepp and Helmut had meanwhile climbed a lovely 20,000 ft. peak through a difficult ice break, showing me that they were in good form. I could not yet move my hands, but wrapped in fleece and three pairs of gloves I could at least keep the cold out. Time dragged, for each day brought the cold weather nearer, as we made our preparations for another attempt. This time we were not so full of hope and determination—we had experienced too much, and had besides felt the power to kill of a storm at over 20,000 ft. We wanted as much as possible to wipe out the memory of that storm, so we did not pitch tents at Camp III, but built ourselves a hole in the ice instead. The stories I had heard about the warmth and comfort of arctic igloos I had always taken with a pinch of salt, but here we learnt to appreciate the Eskimo method of construction. On the first day three Sahibs and five Sherpas got into the narrow hole in the ice, together with the cook, and soon the temperature inside was really bearable. It was a grand feeling to hear the storm howling outside, and not to have to fear being buried under tents again. Once Sepp and two Sherpas tried to push on to Camp IV but they came back half frozen after barely an hour. We spent a long day in our sleeping bags and the weather was so bad that we dared not go outside. Finally we decided we must go on to Camp IV. Our provisions were scarce and our best Sherpa, Pasang, was not yet back with us. But we were determined to go on, for in the interval a Swiss Expedition had appeared on the scene, 'allowing us first shot at the summit, but only one attempt'. We were unable to plan a second attempt later which we would have liked, strengthened by Pasang and the stores. We had to go on.

While we were finishing preparations for the trip to Camp IV we thought we could see two figures on the ridge below us. Our longings had become fact—it was Pasang with the stores. We would wait half an hour together, then we would go on to Camp IV, and the following day push on to the summit. Pasang's was an incredible feat—in the course of three days he went from Marlung, 13,000 feet, over the Nangpa La, and up to the summit of Cho Oyu. He had heard of our meeting with the Swiss Expedition and had declared passionately, 'If the Swiss reach the summit before us I will cut my throat'. We were convinced that these were no idle words, and were spurred on by his fanaticism.

Carefully we made the necessary arrangements in our narrow ice house, looking forward unhappily to a tiresome climb through storm and cold. At the steep step I discovered how helpless I was.

I could hardly use my ice axe. Again we had the tiring climb up over the glacier, again the bitter wind and cloudless sky that reminded us of our night of terror. But now the snow, which two weeks before had been deep and unstable, was hard and blown—which made progress much easier.

We based our new Camp IV about 150 feet higher than our old unhappy site. We would have liked again to go underground, but it was unfortunately impossible to dig a hole in the hard snow. So we had to pitch our tents, anchoring them firmly.

Six men stayed here overnight: Sepp, Helmut and I, Pasang, Ajiba and Gyalsen. Sepp was now in top-notch form, Helmut was perhaps rather slow, and I with my hands was more of a hindrance than a help. So naturally the choice fell upon Sepp to accompany Pasang to the summit next day. We lay in our sleeping bags and waited for night to fall. We were at 23,000 ft., and they would both have about 3,700 ft. to climb next day. A lot, a great deal, at that altitude, and perhaps weather and snow would not be perfect. We must in any case support the summit party and pitch a camp with sleeping bags at about 24,500 ft., so that they would have shelter on their way back if there were no time to reach Camp IV.

While the storm tore at my tent, I argued with myself: a year earlier Pasang and I, on my previous expedition, had first spoken of the plan to climb Cho Oyu. With immense luck I got permission from Nepal, and received the necessary financial backing—and now here I was, lying within a day's march from the summit. And tomorrow I would have to lie inactive, waiting to find out what fate had in store for the two of them. I hated my helplessness. If I packed my hands up really warmly and if the summit wasn't too difficult, perhaps I could go too? But two hours of storm and my hands would be irretrievably dead. Dared I take the risk? Thoughts churned endlessly through my head. Then suddenly I knew: we would go without roping up, then I could turn back at any time without hindering the others. If I found I was not fit enough myself to grapple with Lady Luck, I would at any rate still not have cost them the summit. I crept into the other tent and said 'I am coming with you in the morning'. 'Good', said Sepp, 'I hoped you would'. Pasang nodded, 'That is good'. I was very grateful to them. We would start as soon as greyness preceded the dawn, by the light of the waning moon.

We had a sleepless night ; three men are too many in one tent. It was still dark, but I could hear noises in the other tent. Soon I heard Ajiba's voice calling 'Breakfast' and he gave everybody a cup of cocoa and a bowl of gruel. Outside it was just beginning

to get light. Time to get up, but I lay, full of doubts until, with great trouble, Gyalzen pulled my frozen boots on to my feet. I crept out of my tent into the ice-cold day. The sky and the mountains in Tibet were blood-red. Sepp and Pasang were silently packing their rucksacks. Pasang threw over my crampons. After the warmth of my sleeping bag my hands were still movable, and I tried with my right to seize hold of the ice-axe. I knew that soon my hand would grow stiff and hold it like a vice.

From Camp our route lay up steeply over a snow field. I took great care to make the first steps slowly, and to breathe cautiously. Pasang led, Sepp followed me. At times we could barely see each other. We were each alone, but strengthened by the presence of the other two. It was bitterly cold: the surrounding mountains sparkled in the sunlight, but we had a long way to go before the first rays, cold and impersonal, reached us.

Hitherto I had given quite a good account of myself, but now we reached a rocky band that ringed the mountain like a landmark. A few metres of steep rock and ice a mere trifle that takes but a few minutes to climb over, but in vain did I try to get a hold with my hands, or to pull myself up on my ice-axe—my hands were useless pieces of flesh that hurt unbearably when they touched the rock. While I was still struggling I heard Pasang's voice above: 'Rope, Sahib'. A minute later I stood beside him as he silently put the rope back in his rucksack. Sepp complained about lack of feeling in his legs. I was hardly suffering from the cold, but next day I noticed that my toes and my nose were lightly frostbitten.

Always upwards, the angle became steeper, but the crampons held well. We took several breaths at each step, but did not over-exert ourselves. I was surprised how easily I was still going. Slowly the surrounding peaks sank lower, and the blue Tibetan sky, old friends of many adventures, became bigger and broader. Thoughts wandered, and memories swept over me regardless of time and space. We reached the shoulder and drank several gulps of hot coffee, while Pasang put some rice in our mouths. Here we left the rope behind us, and pushed on without a rest. The storm we apprehended had dropped away, leaving only a wind which pushed and drove us on, up the last stage.

Again each man went at his own pace. We were now in the so-called Zone of Death, the region over 26,000 ft. I knew that some climbers here had helpful visions and heard friendly voices. I stood still, and listened to hear if anyone would speak to me—I hoped to hear the voice of my dead father, but all was quiet.

I was not disappointed. The world around me was unbelievably good: snow sky, wind and I united: I felt close to God and the essentials of the universe—close as I had never felt before. An indescribably, impersonal happiness filled me; and yet I was still quite convinced that we would all die that day. We would not, I thought, reach the camp, nor the tent that Ajiba and Helmut were bringing for us. We would have to bivouac and freeze to death. Despite this I could not hurry—I realised that each second I was enjoying an exceptional experience. I felt I had broken through a metaphysical boundary, and reached a new world.

The slope became easier, and the view wider, and suddenly there was nothing ahead to climb, and the view was unbounded. In the middle, in front of us, lay in unrivalled majesty the summit of Mount Everest. Pasang came over to me, his ice-axe was stuck in the snow flying the flags of Nepal, Austria and India which we had given him that morning. And I, normally no lover of flags, found that the sight of these symbols of my fatherland and the two countries that I think of and love so much, brought tears to my eyes. Pasang hugged me. Beneath his sun-glasses I saw that he too had tears in his eyes—for more than twenty years he had striven for a 'very high' mountain. Today his wish was granted. Sepp joined us. How happy I was that all three of us stood there together. More hugs, more tears of which none of us was ashamed.

We took summit photographs. Sepp used my camera for I was almost incapable. I tried to lift high the ice-axe with the flags, but my hand was to weak to hold it up. We ate chocolates and sweets, and Pasang and I buried some of it for the gods. I wanted to dig a small hole in the hard snow with my ice-axe, but my hands were too awkward and I had to kneel to do so. I stayed a few seconds in that attitude—which seemed to me to be the proper one—and Sepp brought out of his pocket a small crucifix that his mother had given him, and put it in the snow. On his ice-axe he had near the Austrian flag, the Tirolean pennant. I looked at him and could see how happy he was. His had been the hardest decision, for in the difficult moment that his feet had gone numb he knew he had frostbite to fear if he came with us—and yet he had not left us, but taking his Fate into his hands had come with us to the top.

At 3 o'clock on the 19th October we had reached the summit; half an hour later we were on our way down. Again we went

Herbert Tichy and Pasang Dawa Lama on the summit of Cho Oyu (26,750 ft.). Everest and Lhotse in the background.

each at our own speed. The sun fell ever lower, but we had time enough in hand to reach Camp IV.

At the rock step, Helmut was waiting with a tent; he knew already from Pasang that we had reached the summit, and beamed all over his face. He had had the hard and thankless task of covering our retreat. His contribution was greater than if he had himself reached the summit.

And now the last steep slope down to the camp. The mood was the same as when we had started off early in the morning—blood-red twilight over Tibet. Each step seemed to me like a farewell, and I lingered to look and imprint that unforgettable picture in my memory.

Further down I reeled at times and fell, but each time was able to break my fall. Shadows were long by the time I reached camp, where Ajiba was crouched before a burning fire. He came to me: 'Sahib', he said, and hugged me tight. But it would not have been my good Ajiba if he had left it at that. He took a bowl from the fire and gave it to me. I drank in long thirsty gulps—it was boiling hot schnapps. Sepp and Helmut joined us, and night fell. I lay sleepless in the narrow tent, filled with the joy of success, the beauty of deep experience, and the warmth of friendship.

OXFORD UNIVERSITY WEST NEPAL EXPEDITION, 1954

IAN F. DAVIDSON

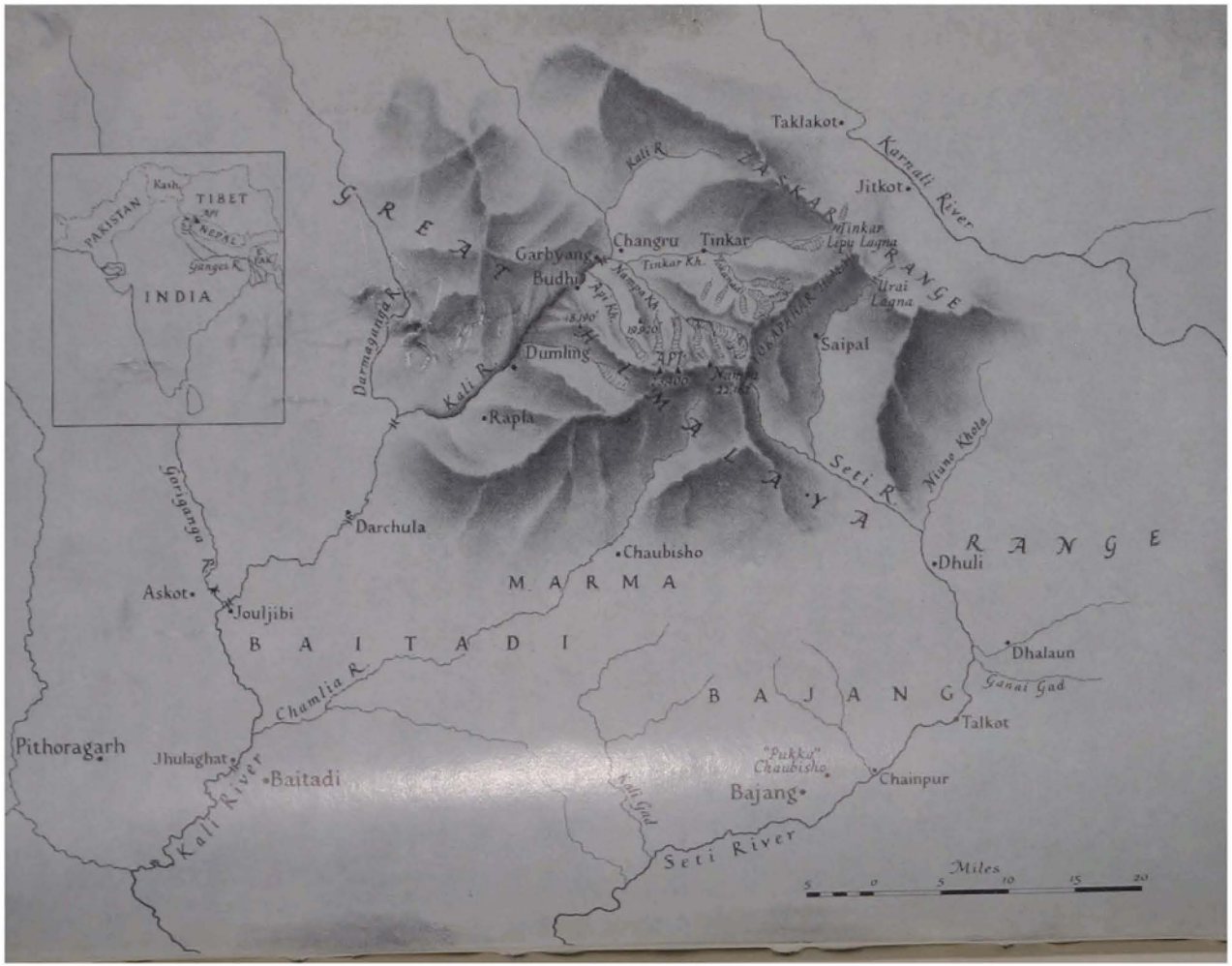
UNTIL 1952 the Oxford University Exploration Club had not one Himalayan expedition to its credit. Before that year the main areas of its activities had been Africa and the Arctic regions. In 1952, however, John Tyson led the first Oxford expedition to the Himalaya—to Tehri-Garwhal.* The particular area which we visited in 1954 was suggested to us by John Tyson, who in 1953 on his second visit to the Himalaya explored the Api and Nempa Group in West Nepal.†

Our original plans were to explore the Saipal Group, east of Api, around the headwaters of the Seti River, to carry out scientific research, and to reconnoitre, and possibly attempt, Saipal (23,079 ft.), the second peak of West Nepal. Conditions compelled these to be changed later. Unlike the Tehri-Garwhal expedition we were unable to take advantage of the post-monsoon period, and we were forced to visit West Nepal between July and September. We were lucky in escaping the worst effects of the monsoon by travelling north into the Tibetan frontier.

We assembled in Tanakpur on July 18th. Dr. Harrington, leader of the expedition, was to carry out geological research, Arnold was a botanist collecting plants above 14,000 ft. for the British Museum, Murray was to collect mice and lizards, also for the British Museum who were anxious to use the specimens in their work of relating colour and size to altitude. I was to study the people, with particular reference to their religion. In Lucknow we had been joined by Todd, fresh from his magnificent climb on Baruntse with Sir Edmond Hillary's expedition and our two sherpas, Ang Temba and Mingma.

It took us four frustrating days to cover the 96 miles from Tanakpur to Pithoragarh, by bus. By July 26th we were ready, having recruited thirty Dotial porters. One day's march took us to the Nepalese border village of Julaghat, on the Kali River. Once in Nepal we marched steadily eastwards through country heavily cultivated with rice and corn. The sun shone down from a cloudless sky, and we began to wonder whether the monsoon was not just a myth. Most of the time we had little idea of our exact

* *Himalayan Journal*, Vol. XVIII (1954), pp. 87–92.
† *Alpine Journal*, Vol. LIX, No. 289 (Nov., '54), pp. 421–427.


PAKISTAN
Kash.
TIBET
NEPAL
Ganges R.
INDIA
GREAT
HIMALAYA
RANGE
Taklakot
Karnali River
Kali R.
Jitkot
Changru
Tinkar
Garbyang
Budhi
Tinkar Kh.
Urai Lagna
Saipal
Dumling
Rapla
Darmaganga R.
Kali R.
Goriganga R.
Darchula
Seti R.
Niune Khola
Chaubisho
MARMA
Dhuli
RANGE
Askot
Jouljibi
BAITADI
Dhalaun
Ganai Gad
BAJANG
Talkot
Chamlia R.
Pithoragarh
Jhulaghat
Baitadi
"Pukka" Chaubisho
Bajang
Chainpur
Kali River
Seti River
Miles
5 0 5 10 15 20

position for it was impossible to follow our route accurately on the Indian Survey map. After seven days we reached the Seti River. By now we had had one or two wet camps, and our mockery of the monsoon ceased.

After days of climbing over one ridge after another it was pleasant to follow a valley, and the Seti, conveniently, would lead us close to the site of our base camp. Three days following the river led us to the village of Chainpur. Murray and I left the main party before it arrived in Chainpur to visit the Rajah of Bajang. We climbed four thousand feet out of the valley to the palace which stood on a small plateau, and here we were regally entertained to dinner and breakfast. The Rajah, who speaks excellent English, takes a very great interest in expeditions in his territory, and had travelled to the base camp of the Austrian Saipal Expedition earlier this year.

On August 7th we joined the others in Chainpur. Here we spent two days collecting rice and ata, and on the second day we were entertained at the local school.

The route ahead lay over a 12,000 ft. ridge, to avoid a large easterly swing in the river, to the village of Dhuli. We crossed the ridge in three days and it was during this time that we had our first view of the mountains. In one of the very infrequent cloudless spells we saw spread out before us some of the outlying peaks of the Saipal Group. On the third day we descended again to the river, and camped close to Dhuli, where we found a strange tribe quite unlike the Dotials who inhabit this part of West Nepal. These people were distinctly mongolian in appearance, and much smaller than the Dotials.

Earlier in 1954, an Austrian expedition had attempted Saipal from the head of the Ghat Khola, a tributary of the Seti east of Dhuli. They failed to reach the summit, having lost one man of pneumonia at 21,000 ft., and they reported that side of the mountain to be difficult and dangerous. We decided therefore to establish our base at the head of the Niuno Khola west of Dhuli.

From Dhuli we followed the Seti northwards for one day and then branched off into the Niuno Khola. Another day was spent facing a track through dense undergrowth, with the coolies growing less and less willing. From our camp we made a reconnaissance higher up the valley, only to find that an impassable gorge, carrying the turbulent swollen river, made further progress impossible. A dejected party, we retreated to the main Seti and followed it north for three days. On the second day we emerged from the forest on to high alpine meadows, blazing with the colours of many flowers.

The next day led us to a large river flat close to the Tibetan trading settlement of Saipal, and about six miles south of the frontier. Here we established base camp.

The Tibetans who inhabit Saipal come into Nepal twice yearly bringing salt which they exchange for rice and flour. The barter takes place under an agreement—centuries old—between the Rajah of Bajang and the local Tibetan ruler. We were fortunate in being able to buy sheep from the Tibetans, to supplement our rations.

Time at base camp was short as we had to be back in India by early October, and so immediately we began our twofold programme. North of camp—marked roughly and named Byasrikhi Himal on the map—known locally as Rakshya Urai, was a range of peaks from 20,000 to 22,000 feet. It was here that we hoped to find a peak to replace Saipal, which was now beyond our grasp. Arnold and Murray began their work in the vicinity of base, Harrington and Sherpa Ang Tembo moved north and established Camp I at 18,500 feet just short of the frontier, and Todd and I with Sherpa Mingma followed a tributary of the Seti to a glacier coming down from the Rakshya Urai. We reached the glacier but very bad weather prevented us making a satisfactory reconnaissance.

A few days later we left base and joined Harrington at Camp I, where he had been carrying out geological work. From this camp the work of collecting and surveying went ahead. On numerous occasions during the course of our survey work we reached points of 20,000 feet which rendered magnificent views across Tibet including that country's highest peak, Gurla Mandhata, its lofty summit shrouded in thick cloud. Murray and Harrington recorded our first success by climbing a rock peak of just over 20,000 feet, which stands sentinel above the Urai Hagna Pass (19,400 feet).

On August 23rd, Todd and I, with Mingma, made an attempt on an unnamed peak of 21,500 feet. In the cold early morning we crawled from the tent to find that Mingma, not satisfied with Primus stoves, had a large juniper fire burning. We set off as the first light of dawn was touching the summit of our peak. Behind us as we climbed up the glacier we saw the twin summits of Lepu Dandar split by a tremendous ice couloir, and further away the snow-capped summit of Saipal looked grey in the pale morning light. We crossed the bergschrund without difficulty, and climbed a snow couloir towards the summit ridge. On reaching the ridge we found it to be a rotten knife-edge, and we were forced to traverse some dangerous slabs which frequently showered down avalanches of stones on to the glacier. We climbed steadily across the slabs and

eventually, having spent an hour cutting steps across an ice couloir, we were checked by difficult rock. We were breathing badly and felt incapable of tackling the rock above. Thus about 500 feet below the summit we turned back and descended to the glacier. Thick cloud now covered all the peaks, and we returned to camp in a rainstorm.

Before leaving this first Camp I, we followed the track up to the Tibetan frontier, and looked out across that strange fascinating country—down the valley towards Taklakot. On the pass, on a small cairn, fluttered hundreds of prayer flags and standing there in a snowstorm, I have seldom felt so lonely.

We returned to base camp before establishing a second Camp I at 19,000 feet under the Rakshya Urai. It was planned to spend the first day reconnoitring the largest peak in the range—a peak of 22,000 feet, named, rather unimaginatively by us, Rakshya! Jim Murray describes the eventful day as follows—'August 29 dawned cold and clear. In the glacier camp we were up by five o'clock—clear mornings were too rare to waste. Breakfast seemed to take an agonisingly long time but at last we were away. The boulder-covered surface of the glacier was free from snow and we made good time.

For the first time Rakshya, now on our left, was free of cloud. To our excitement, there appeared to be a feasible route opening out before us. A subsidiary glacier coming down from our left apparently gave access to a col on the main east ridge of Rakshya. From there snow slopes, steep but practicable, led to the final snow ridge of the summit.

The sky was still clear, our early start gave us sufficient time; and as the weather would very likely never be so favourable again, we decided to seize the opportunity and turn our reconnaissance into an attempt to climb Rakshya. Quickly we roped up and set off. We moved quickly up the steepening slopes of the subsidiary glacier. A bergschrund was crossed on a substantial snow bridge, and a second turned where it was incomplete. The angle steepened continually, and we were cutting steps before we reached the col.

The col, once reached, rewarded us with a view of peaks in all directions—the giant massif of Saipal, Kapkot, Api, and the plateau of Tibet. Turning our attention again we found that our gentle snow slope had deceived us. It lay at a fearsome angle. Fortunately we were able to break out to the right into a region of seamed and shattered rock, affording fairly easy climbing. Several hundred feet of this rotten rock led us to a break of the slope where we were able to regain the anête proper. Now the inevitable

monsoon clouds, which had been boiling up from the valleys below, enveloped us in mist.

About this time, through the mist, I could just see an ice cliff which I judged to be another 1,000 feet above us. I turned to tell Todd of my fear, and was surprised when he laughed. Then a rift appeared in the cloud and showed the cliff to be very near at hand and about twenty feet high! Once up this short pitch we were on the almost level snow which ended in a huge cornice at the very summit'.

Two days after the climb on Rakshya, we followed the main glacier flowing from Rakshya, up to a col on the ridge. Heavy cloud hung over the glacier as we climbed steadily upwards. Todd and Murray were ahead, whilst Harrington and I following planned to descend for a short distance on the north side. Once on the col we groped our way across when a shout from above halted us—what we had imagined would be a glacier on the north side was in fact a drop of thousands of feet on to the moraine below. Being compelled to abandon our plans we climbed to a point of 20,500 feet from which we hoped to complete some survey work in the tangled mass of peaks to westward on the border. The cloud hindered our work but we were rewarded for our long wait by infrequent but magnificent views of the peaks glistening like gems against the velvet blue sky of Tibet.

Time was now growing short and we returned to base where our three Dotial coolies waited anxiously. They had heard stories from coolies coming over from Tibet that the Chinese troops at Taklakot were coming over to get us! We have yet to see them.

On September 8, having cleared up some outstanding scientific work, and made more frustrating attempts at surveying, we began to march out, following the route by which we had travelled in. It rained heavily as we crossed the ridge, south of Dhuli. After a few days the monsoon cloud receded and the temperatures rocketed up. The journey out was uneventful and by the beginning of October we were travelling south by train. A fitting farewell to the Himalaya was our last view of Api (23,399 ft.), rising above the blue ridges of the foothills—its summit bathed in golden light as it held the last rays of sunshine.

THE EXPEDITION OF THE ROYAL AIR FORCE MOUNTAINEERING ASSOCIATION TO LAHOUL, JUNE 1955

GROUP CAPTAIN A. J. M. SMYTH, O.B.E., D.F.C.

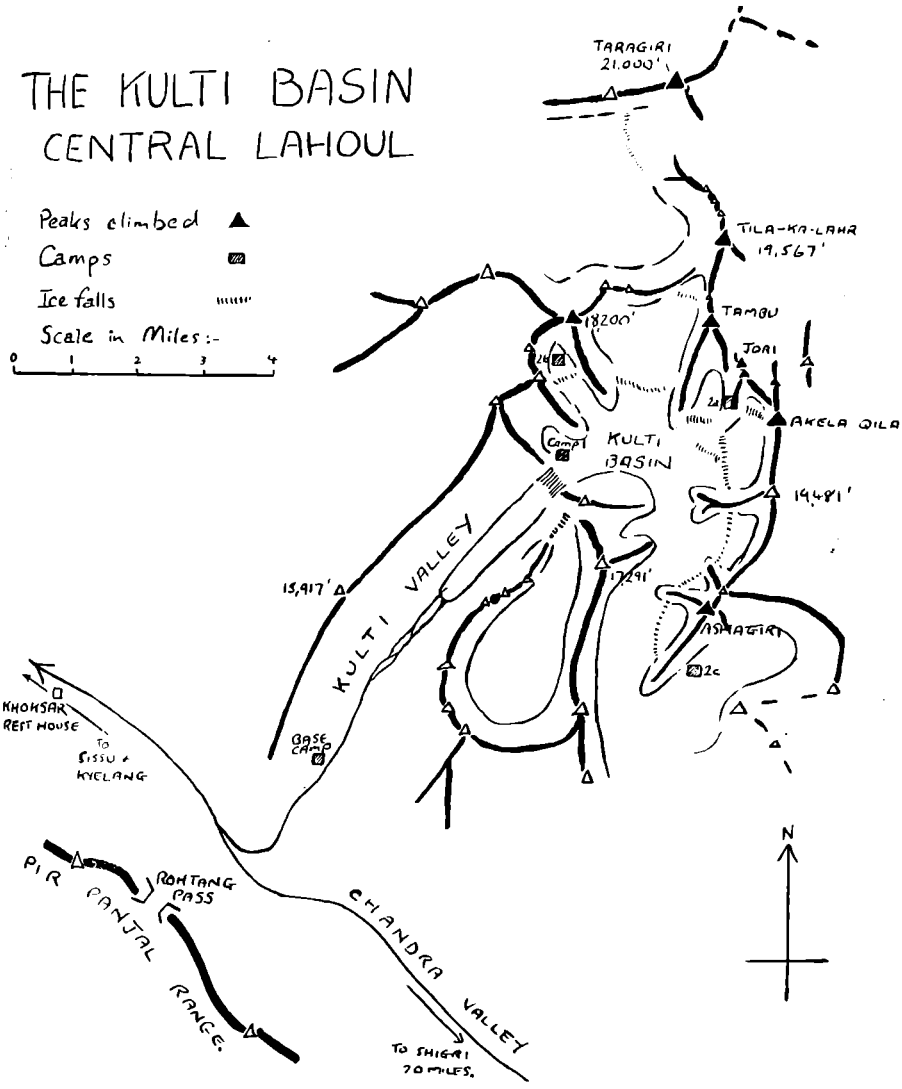
WHEN we originally made up our minds to come to the Lahoul area, there were several factors which prompted this decision, the most impelling of which was its accessibility. Being unsupported by public funds, except for a free trip to India, we were forced to limit our expedition to six weeks beyond Delhi. After much consideration we chose the Spiti-Lahoul watershed, approaching via the Bara Shigri glacier, recently visited by Gunther, with the intention of plotting the courses of the Gyurdi and Ratung rivers—those tributaries of the Spiti river which flow north-eastward parallel with the border, and join the main stream through precipitous gorges. As we approached Manali reports of the late winter and terrible state of the snow poured in to us, and we prayed that they were exaggerated. When we reached the Forest Rest House at Manali, where a fine camping area was kindly put at our disposal, it became imperative that we have immediate first-hand information on the state of the Rohtang. Little realizing what we were asking, we sent off Stewart and Lees on the morning of 21st May for a day's walk to the Rohtang and back, and this gave us the definite news that the pass was closed to ponies for at least a week.

This announcement was just what we had feared. We had already arranged with Major Banon for the assembly of fourteen coolies and five Ladakhis as support for a major reconnaissance party to go as far as the head of the Bara Shigri, and to prepare the way for the horse party which would follow. Therefore leaving Davies, Holton, Jones, Dev Datta and Emmerson to train in the Hills around Manali the rest of us set off, leaving Chhika on 24th May for the crossing of the Hamta. Even when we left camp at 06.30 it was overcast and ominously warm. We were on the old snow a little above 10,000 ft. and made good progress until we came to the newer surface where trail breaking became hard work. Another obstacle which we met repeatedly for the next week or more was the frequent wet snow avalanche tips. We reckoned that the heavy snow falls of late April and early May must have had little adhesion to the old winter firn, and peeled off in unprecedented masses. These had flowed smoothly down gradients

of ten degrees and sometimes ascended the opposite sides of valleys. Vast seracs twenty or thirty feet high stuck out of treacherous slush where one often sank to the waist; moreover the exhausting passage had to be repeated three or four times per mile. Where the snow surface had not come off, then it was still comparatively new, and lacked the several months of consolidation which it should have had by this time of the year.

We were still struggling through this morass when it began to snow at eleven o'clock. It was not until nearly four in the afternoon that we reached the pass, and by this time the visibility was a hundred yards and over a foot of new snow had fallen. Avalanches could be heard now and then. We started off in the direction indicated by Pannu, our chief Manali wallah, but this was obviously dangerous, so we soon abandoned it for another way chosen by Stewart and Bennet, which led us straight down on to the glacier. From now on the danger was much less, but the effort in the new snow was frightful for the leaders, as we all carried heavy packs. It began to get dark and there was nothing for it but to camp, even though we had not planned for such an emergency. Somehow we all squashed in, eleven coolies spending the night in one Meade. It was not really surprising therefore that when we reached Chatiru the next day, they refused to go any further, swearing that they had never known snow in the Chandra valley in late May, and that they would not have come had they known of it. Here was another problem for which we had not catered. Using our Sherpas and Ladakhis we dumped as much food as possible one march away at Jitang, and left Stewart, Sims and Lees to reconnoitre towards Shigri, while all the other mouths—Bennet, Jayal, Emmerson (who had joined us with medical stores) and myself turned for the Rohtang and home, accompanied by all the Ladakhis and four Sherpas. We reached Manali on 28th May after just a week's absence with two strong impressions; firstly the Chandra valley from the Kulti to Chatiru was practically impassable for coolies and would remain a barrier to animal transport for several weeks, so bad were the avalanche tips; secondly the Kulti Himal as seen from the Rohtang gave us lots of scope. The big decision had to be taken. If we couldn't feed the expedition on the Bara Shigri, we would go to the Kulti.

This decision was, of course, welcomed by those left in Manali, all of whom except Davies, the Transport Officer, immediately set off in hot pursuit of the Shigri party to bring them back. These four split into two when the first dumps were reached. Meanwhile Bennet, Jayal and myself rushed back over the Rohtang



supported by coolies, leaving Davies and Emmerson to come along when the pass was fully open. At this stage the expedition was operating in six separate parties, but somehow we all rendezvoused complete with our stores at the Kulti Nal on 5th June. We were somewhat dubious about the reception of the Kulti plan by the Shigri wallahs, but luckily we already had a first-hand report of the upper basin from Bennet and Jayal who had been up to 15,000 ft. The fact that we at last had a firm base in a pleasant position after so much waste of time and energy was itself satisfying—even if it was only at 11,700 ft. We had also a small Camp I at 14,700 established by Bennet and Jayal two days before.

Without wasting any time, the Survey Party with Sims, Holton Doc Jones and Jayal set about finding and fixing the local Trig Points. Their findings led them to the conclusion that they would have to start again from Scratch setting up a base line on the flat portion of the Kulti. Meanwhile a climbing party consisting of Stewart, Bennet, Less and myself supported by Dev Datta set out on 6th June across the four miles of the Sara flats (12,500 ft.), now covered with about 4 ft. of level snow which bridged the rivers over nearly their entire length. Going was easy until near the main ice-fall where the usual avalanche tips slowed us down. The ice-fall itself was far less terrifying than it appeared from afar. A couloir on the left (true right) side between the rock and ice provided a fairly safe corridor before 9 a.m., and during our three weeks in the area we made several hundred movements up and down it without accident. After 10 a.m. a stonefall made it advisable to use the ice face which was quite safe in crampons, even without roping. The original Camp I perched on an artificial ledge about 800 ft. above the top of the ice-fall, but was afterwards moved into level snow 200 ft. higher up, to the detriment of its view. We gathered from Davies that, later in the year, even at 14,700 ft. all this was bare moraine. When he came as far as this in 1941, the ice-fall did not exist and the glacier commenced at least a quarter of a mile lower. It is fair to speculate that in 1970 the main ice-fall will be a hanging glacier.

We were now in a position to examine the Kulti basin, and in this our small scale map did not give us much help. As seen from the Rohtang, the similar altitude of the cols between the peaks to the northward led us to suspect that these peaks formed part of the lip of a central plateau which the map suggested drained gently eastward toward the Chandra Tal lake. If we could reach this plateau, then a number of peaks would be ours without great effort. The chief weakness seemed to be a curving crescent of snow which fell from the eastern of two twin summits which we called 'Jori' ('The Twins'). Leaving Camp I by the light of the moon with Dev Datta and Sherpas Pasang and Nambe in support we took about an hour and a half to reach the foot of our special ice-fall. Of the five or so ice-falls descending into the upper Kulti basin, ours was one of the easiest, so that a zigzag course up steepish snow led us to a long corridor leading left round the bottom of the Crescent Ridge. Around the back of this, steeper snow led up on to the ridge itself at about 17,000 ft. a rather trying ascent for we were beginning to notice the altitude a little, heavily loaded as we were. A snow shelf led off westward from the main ridge

and upon this we placed Camp IIa, sheltered from the worst of the wind should it blow, yet enjoying one of the best of views. The camp was pitched in good time, and Dev Datta and his Sherpas dispatched down to Camp I at 11.00 a.m. just as the snow was becoming bad. They got down safely although they claim at times to have been up to their necks.

From Camp IIa we saw that there were now three possible ways on to the plateau: the obvious pursuit of the Crescent Ridge, but this looked extremely steep and exposed at the very top; a traverse across avalanche slopes immediately to the east, and thence up a steep snow ridge—this we took next day; or along our corridor, across a valley and thence up a broad ridge we later called the Belvedere to reach the plateau between the Twins and 'Tambu' (the Tent Peak), this became the standard route as it could be used safely in the afternoon. It was pleasantly cool, the next morning when we set out, but probably not below zero Fahrenheit. Nevertheless we were thankful for our duvets as we followed Stewart and Bennet who took turns to cut steps up the snow ridge which led steeply up to the plateau at the 'Silbersattel', about 18,000 ft. As Lees was definitely feeling the altitude, he and I chose the simpler problem of the eastern Twin, while the other two pitted themselves against the very steep side of what we thought was 19,567 on the map. Later, after considerable searching of the dictionary we called it 'Akela Kila' (the Lone Fort).

Administrative problems now called me back to Base Camp but the Camp IIa party still had a big programme before them. The Belvedere route had still to be explored, and if this went well, Tambu was immediately within their grasp—as in fact it was on the next day. But always before them towered the 21,000 ft. which was so easily visible from Tambu and Jori. There seems to have been some doubt of this height which appears on the $\frac{1}{4}$ inch maps to the south of 21,380—surely the 'Mulkilla' of the N.U.S. 1939 expedition*. But if 21,000 is correct, then 21,380 must be a considerable underestimate. On the other hand 21,000 may be overvalued, but then this would mean the overvaluation of all the Kulti peaks. It is not likely that our survey will solve the problem since the survey was unfortunately denied the sight of 21,000, now called by us 'Taragiri' with reference to the Air Forces' motto 'Per Ardua ad Astra'.

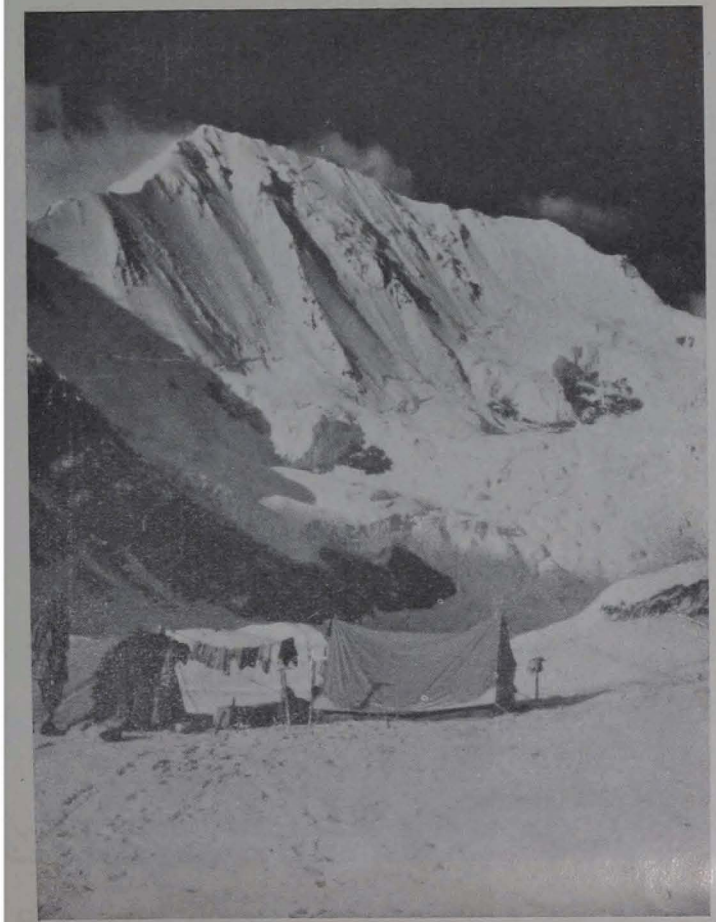
Tambu, having been climbed by Stewart, Bennet and Lees on 9th June without difficulty, the same party set off up the Belvedere at the same time next day, traversing round the back of Tambu

* 'The Mountains of Central Lahoul' by Ludwig Krenek. *H.J.*, XII.

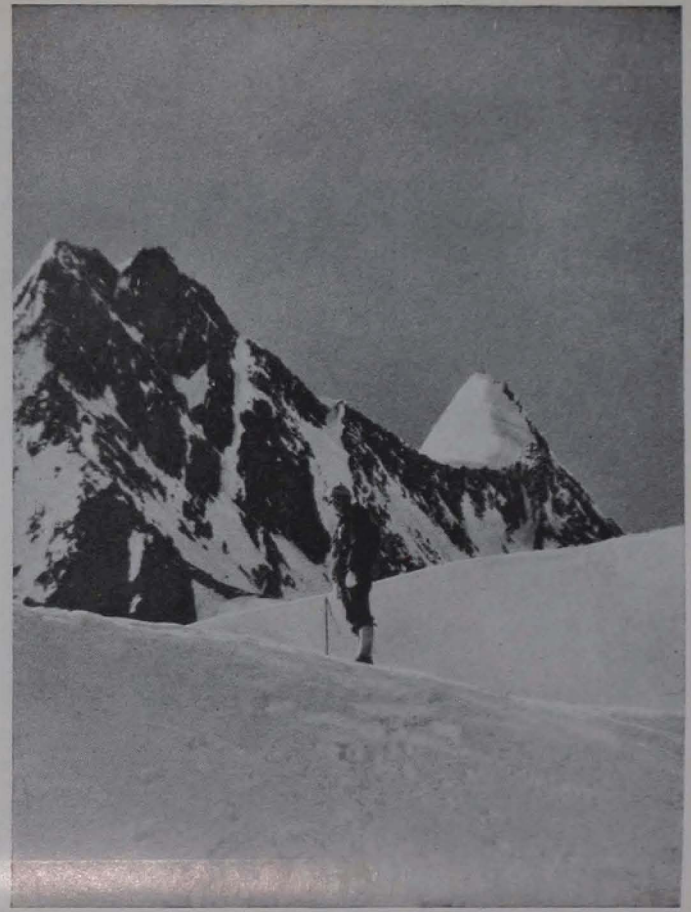
on the plateau on their way to the southernmost peak of the prominent wavy ridge to the north-west. Following our usual custom of choosing a name by translating, with the help of Jayal and the dictionary, the physical peculiarities of the mountain we called this Tila-ka-Lahr. It was the end peak of the six or seven forming the ridge that Stewart and his party climbed on 11th June, reaching the shale summit via a narrow snow arête. Lees, not yet having reached complete acclimatization, went down to Base Camp, his place being taken by Emmerson who had come up to Camp IIa with Jayal and a load of food. To give Emmerson a little time to get used to the added height, they ascended the Belvedere again and this time did an eastward traverse of the Twins, including a first ascent of the western or lesser summit. It was a lovely climb even though a certain amount of loose rock and snow were encountered on the way up. These two narrow blades of rock, with their sharp drops of perhaps 4,000 ft. to the southward, their concave northern slopes flaring out into the snow of the plateau about 1,000 ft. below, their narrow corniced spines two or three feet across, were beautiful by any standards, even though their scale was less than that of the Eiger and Mönch.

The stage, then, was all set for Taragiri. A 1.30 breakfast and a 2.30 start on 12th June saw the same climbers up the Belvedere for the fourth time in four days by the light of a waning moon. The plateau was taken easily on crampons and the four-mile slog did not tire the party, making for the western ridge. This however proved to be split by an awkward gap, so that they were forced out on to the south-west face and thence up to the southern ridge, reaching the summit after a moderate snow climb at 09.30. The way back on dazzling softened snow was far from pleasant. They were quite ready for Base Camp and a short rest.

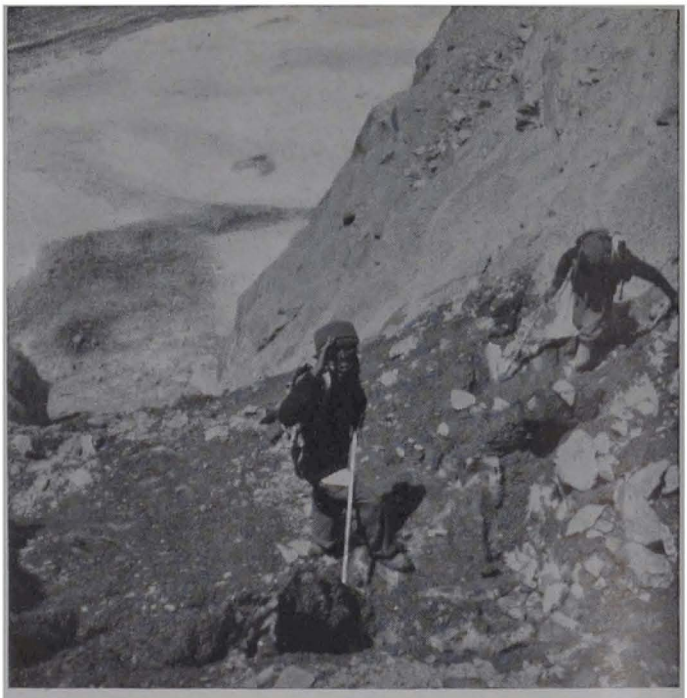
When I reached Base Camp on 9th June I found that the surveyors were all ready for the Upper Kulti—were in fact impatient to be off, and delighted with the progress already made by the climbing party. Accompanied by Lester Davies they set off next day with all the Sherpas and Ladakhis available, it being Davies' idea to take cine pictures on the ice-fall. Lees came down from Camp IIa on the 10th evening, having climbed Tila-ka-Lahr and descended the twelve plus miles to Base almost without stopping. By descending the stone shoot in mid-afternoon, he was able to confirm that this was extremely dangerous, and reached camp a wiser man. It is surprising therefore that he was fit enough to leave with me at 04.30 the next (12th) morning. Hardly had we reached the Sara flats in the growing light, when we came across



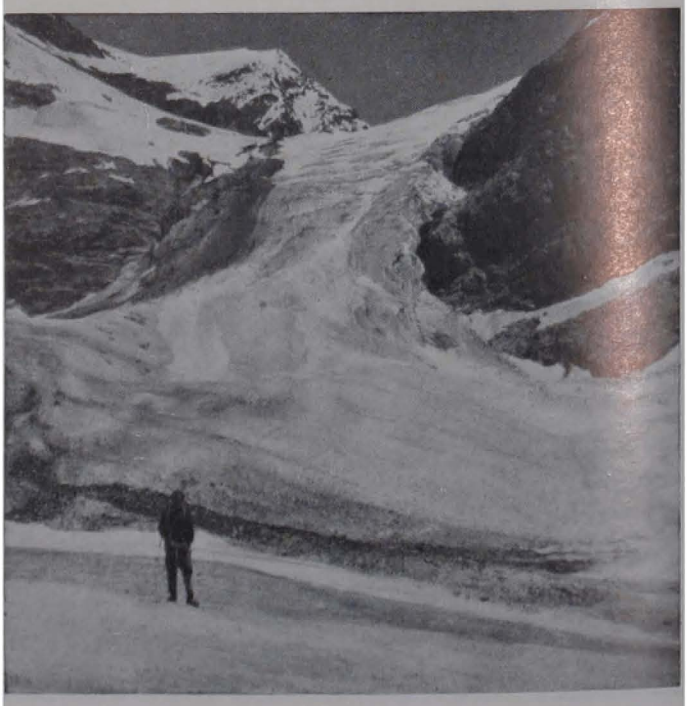
A camp on the glacier below the Mukar Beh-Shikar Beh col. Mukar Beh (still unclimbed) is behind.



Fg. Off. D. J. Bennet below the Twins (Jori). He climbed both.



Ladakhi porters climbing the treacherous 'stone chute' on gully beside the Kulti ice-fall.



Ladakhi Zor Zor below the Kulti ice-fall. Stone chute on left.

foot-prints. Wider than the human foot and perhaps slightly shorter they threw us into a fever of excitement, for we knew that Davies had passed that way some twelve hours previously and must have seen these foot-prints if they had been there. They were so like human feet that we immediately leapt to conclusions, and sent for Davies who spent the rest of the day chasing Yetis. The similarity of these prints to those of the brown bear which ran through Base Camp a few days later unfortunately convinced me that our Yeti was in fact a bear.

The area chosen for the survey camp was up a side valley filled by an uncrevassed glacier, which seemed to point directly at Taragiri. I had chosen this from Camp IIa because it seemed to offer a fine view of the assumed Trig points near the Rohtang, and the plateau beyond Tambu. In fact the plateau was obscured from it, but even so our surveyors, by setting up their theodolite on various ridges, were able to plot the Upper Basin extensively. Had we had time to base our survey plan on the results of the climbing party's experience, we should have made the Belvedere our survey centre. Lees and I reached Camp IIb at about 09.00 on the 13th carrying our own kit and food plus the big Bell and Howell camera. We found everyone in the best of spirits, for the entire party had climbed peak 18,199 the day before, although Jayal, still feeling the effects of two of Doc Jones' sleeping tablets, had to be led up in a dream. They now had an idyllic site on a very sharp ridge, where the rock gave them a firm base for the tripod. Contrary to our briefing from the R.G.S. we found that no amount of beating and trampling of the snow would prevent a significant variation of readings not taken from solid ground.

The survey party ended with a magnificent ascent by Sims and Dev Datta of a peak we later called Ashagiri. We were never exactly able to locate this on the ½ inch map but from comparison of its height with those of surrounding peaks, it is probable that it must border on 20,000 ft. Supported by Sherpa Urkien, they set up Camp IIc on the gentle snow col which forms the ultimate end of the Kulti basin, and leads to the enormous plateau which falls inappreciably towards the Chandra valley and the south. After an early start, they gained height rapidly until the ridge became extremely thin and they were forced off this on to the west face, climbing over avalanche debris and red rock of a standard not reaching severe, but made impressive by the great exposure. On this climb Dev Datta showed considerable ability as a coming Indian mountaineer.

We had always planned on packing up Base Camp on 23rd June,

and since Stewart, Bennet, Lees and Emmerson had recuperated sufficiently by 15th to undertake a further sortie, a quick dash to Shikar Beh was decided upon for the first three, while the rest of us set about recovering our equipment from the higher camps. With Nambe and Pasang therefore, and supported by Ladakhis and Davies only as far as Sissu, the party crossed the Chandra by rope and pulley—all except Lees, who had to cross first without the pulley which reposed on the other side. The map shows an average gradient to the Shikar Beh-Mukar Beh col of 1 in $2\frac{1}{2}$. Their ascent of the waterfall and three ice-falls followed by a 45 degree summit ridge forms an epic in itself, especially as nearly all loads had to be double loaded or double staged. To summarize therefore: the waterfall was avoided on the east; the first ice-fall was taken direct, proving initially simple but later more difficult; the second ice-fall was avoided, by a steep corridor on its western edge; the third ice-fall was avoided entirely on open ground to the west. The hardest part of the climb was undoubtedly the final ridge which fell in steep steps of hard ice with occasional bands of treacherous snow. The party did very well to join us at Khoksar exactly according to plan.

The packing up of Camp I provided us with something of a problem, for the stone shoot was now out of the question for heavily loaded men at any time, and every bit of our equipment had to be returned either to the Himalayan Club, or to the Equipment Officer at R.A.F. Hendon from whence it was held on Bennet's charge. We solved the matter by lowering everything down the ice-fall itself on the end of 500 ft. of nylon rope. We were glad the Equipment Officer was not with us. Namgyal's excellent ponies turned up on time, and Base Camp with its now green pastures with irises and potentillas was abandoned to the 'gaddis' on the date intended. We arrived back in Manali where the efficient services of the local Secretary, Major Banon, sent us on our way just as the monsoon broke.

Our expedition has taught us many things—most of them parochial, and these need not be mentioned here. But we feel it has proved the excellence of the Kulti for those who want a climbing holiday in the Alpine style, with perhaps only a fortnight to spare for it. A club hut above the first ice-fall would save a lot of carrying, while a bridge over the Chandra opposite the Kulti would save half a day bringing this hut within 48 hours of Manali. We are convinced that Major Banon's Ladakhis, given a little training and a little organization, would be quite able to replace the Sherpa on an expedition such as ours. I would like to end by thanking

all members of the Himalayan Club who helped to make our small expedition such a success.

The Jayal named in above is Flt. Lieut. Nalni D. Jayal of the Indian Air Force, who was with the French on Nanda Devi and with Gurdial Singh and Greenwood.—EDITOR.

THE ASCENT OF ISTOR-O-NAL

JOSEPH E. MURPHY, JR.

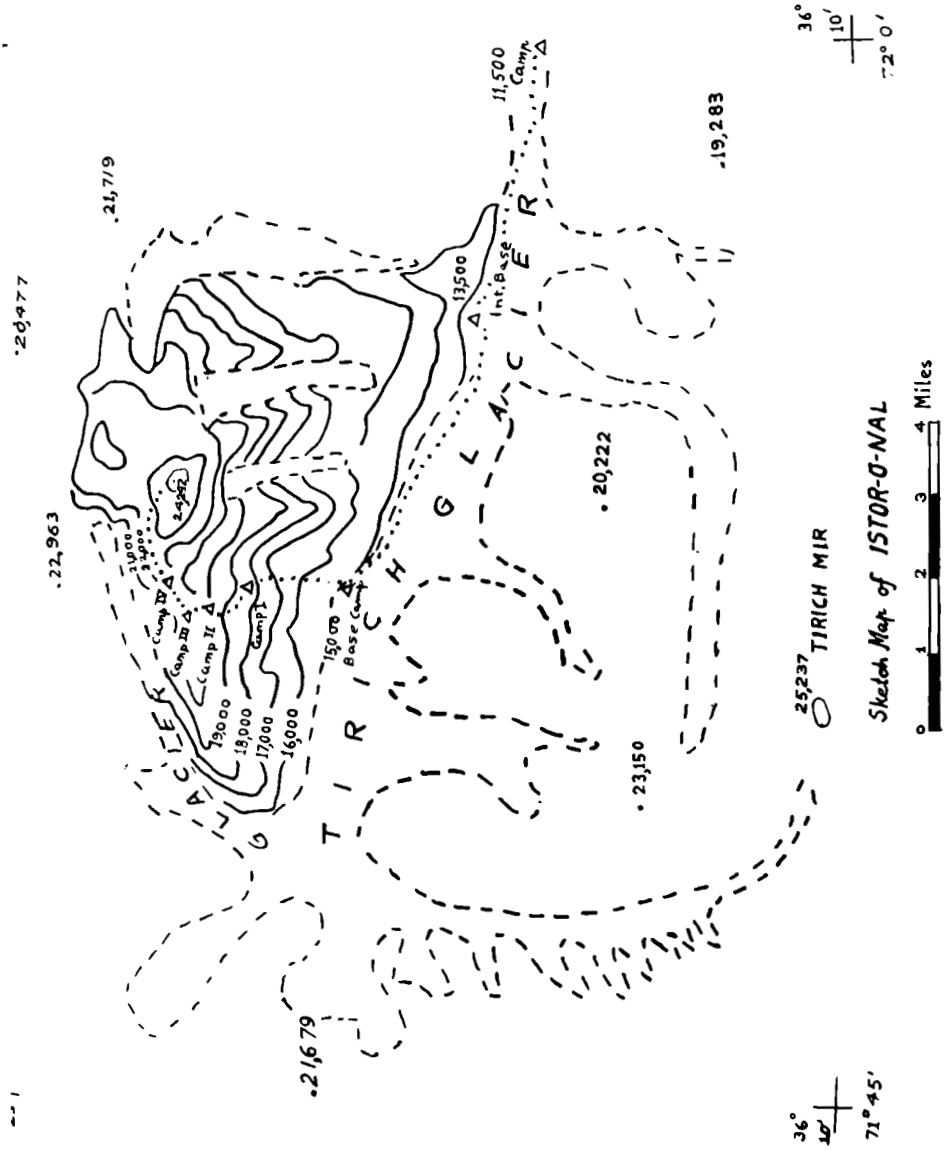
THE Princeton Mountaineering Club Expedition to the Hindu Kush in the state of Chitral, West Pakistan, and the ascent of the 24,242-foot peak, Istor-o-Nal, resulted from Thomas A. Mutch's facetious suggestion that he and I make our next trip to the Himalayas. At the time, Tim and I were sitting on the bank of a river in the Coast Range of British Columbia on an earlier Princeton Mountaineering Club trip. When the idea of a Himalayan venture first occurred, we considered it an impossible dream for we had neither the capital nor the experience thought necessary to undertake the enterprise.

But the 'impossible' is always intriguing and we kept the idea of a future expedition in the back of our minds with a tentative date set for the Spring following our completion of military service, June 1955. It would be an opportune time since then neither of us would be tied down by the demands of business and marriage, duties which generally preclude the chance to join an expedition.

During the next two and one-half years, plans progressed and letters accumulated. Choosing a suitable site for a small party, selecting the right equipment, getting permission to enter the mountains, obtaining my release from the Army in Japan—all took time. We consulted men who had been to the Himalayas, for advice, studied books and journals, ordered equipment catalogues, and contacted the State Department and foreign embassies. We planned on spending what we could pool from our Army savings, $5,000 or a fraction of the cost of most larger expeditions.

High-altitude tents arrived from England, Primus stoves from Sweden, light 'mummy' down sleeping bags from California, each item selected after much deliberation. Negotiation for permission to climb, the most uncertain factor, dragged on for over a year. India was out. The report from Nepal was unfavourable. Pakistan gave vague assurances that we would get permission, but no written promise had come by the time Tim was due to sail.

Fortunately, he sailed. Forty days later, in Karachi, Tim met, almost by coincidence, the one man who could grant permission, Dr. Imdad Husain, and got the permit. An American Embassy official was amazed at this; he thought it would take months. Getting permission to climb was not the last problem. At the unloading dock, seven crates of equipment nearly disappeared into a train, when by chance Tim, seeing the familiar baggage being



hoisted away, stopped the fatal operation. From the docks, the equipment went to the customs office and halted suddenly under ban of a prohibitive tariff. Three days later, the Treasury Department issued a licence removing the duty which allowed Tim to shuttle the supplies off to the station and board the train for Lahore.

In Lahore, with the invaluable help of the Rev. R. M. Ewing, President of Forman College, Tim assembled the equipment and

awaited my arrival. In the meantime, the Pakistan Government was most generous and assigned Major Ken Bankwala of the Infantry School to our expedition as liaison officer. On the 7th day of May I arrived by plane from Japan and the next day we left for the north-west state of Chitral on the Afghan border, by train, later travelling by bus and ultimately foot.

Like Switzerland, the state of Chitral is hemmed in by mountains and 10,000-foot Lawrie Pass forms the south entrance. On the 11th of May, just below the pass, a snow-storm forced us to find shelter which we discovered around the next bend in a 'hotel', a small mud hut where Tim, Ken and I, ten porters, and twelve donkeys spent the night. Though the manager insisted that his establishment was comparable to the Waldorf, it was not quite that luxurious, as is indicated by the low rate, two annas or five cents each per night. Even the donkeys complained.

Early the next morning we trudged through the snow on the pass and hiked down to a nearby fort along a steep winding road. Traffic along the narrow road was heavy with coolies and some burros carrying wood and grain to Dir and staples back into Chitral. At the fort, we obtained a jeep to take us to the main post at Drosh where we watched a wildly played polo match and spent the night. On the following morning we continued driving north until we reached the town of Chitral with its bustling market and royal palace set beneath the giant white dome of Tirich Mir.

The next three days we spent in the town where we attended dinners, visited the nearby mining operation, played tennis and, when we were given the chance, sorted and repacked our food and equipment into two-man per two-day rations and eighty pound loads. On the second morning, in response to a call for porters, thirty-four hardy coolies appeared and lined up in one long uneven rank. Ken and I trooped the line to select the ten best, though if they were the best it was by luck, as a man's looks give little indication of his endurance. The agreement on wages had met with our stipulation that it be no more than the local rate and the porters seemed happy. By the evening of the 15th, our arrangements had been completed; after drinking three bottles of home-made wine donated by one of the princes as a farewell gesture, we felt slightly out of condition, but planned to depart for the mountains early on the 16th.

As the sun began to penetrate the morning mist, Tim, Ken and I each shouldered a thirty pound pack while the porters lifted their eighty for the march. For five days we walked up a long winding valley with its sharp contrasts of green villages and hot

barren desert. We spent the nights at village guest houses and stopped for lunch along the way at small tea shops. Fifty miles from the town of Chitral, beyond snow-laden Zani Pass (12,800 feet), in a cluster of weather-beaten dwellings called Souche, more porters joined the party bringing Ata (roughly ground wheat). We filed out of Souche on the 24th with eighteen porters and turned west toward the Lower Tirich Glacier, establishing three days later Intermediate Base Camp at 13,000 feet in a driving snow-storm. Soaked to the skin by the wet snow and tired by the long difficult march, the coolies balked for the first time—the tough Chitralis who had vowed they would go to the top wanted to return home. Only our faithful cook, Gulnawaz, wished to go on.

The next day was clear and with it came renewed optimism. We needed five volunteers and as many stepped forward game to continue. On the 29th we placed Base Camp on the main glacier below a large couloir in view of the route used by the two previous expeditions. Working upwards from 15,000 feet we pitched Camp I two days later on the crest of a minor ridge at 18,500 feet above the couloir. The ascent to Camp I was long, a snow climb across the rough debris of an old avalanche several city blocks in area and then up a steep narrow couloir.

From Camp I, Tim and I struck out to make a reconnaissance for the next site. Beyond a treacherous couloir rose a short but steep ice pitch. I began cutting steps in the blue ice and the chips flaked out and down past Tim and the three porters. It looked as though it would take several hours to cut our way to the top until we found a vertical crack several inches wide in the ice face; it led diagonally toward the top. Notching ladderlike steps on the edge of the crack was easier and within an hour I had struggled over the brim into soft snow. Tim brought the porters up on belay and shortly before noon, we selected a site for Camp II on a large snow-field at about 20,000 feet.

We descended to Camp I by an alternate route through a dense fog and met Ken who had brought up more supplies with the other two porters. Our plan to occupy the new site the next day, 1st June, was denied when the porters moaned and groaned and refused to budge from their tent. Headaches, lack of appetite, signs of high-altitude sickness, and superstition kept them to their sleeping bags while Tim and I puttered about camp, made restless by the delay. By noon light storms closed in and soon snow and wind made thoughts of going on more impossible.

For the next two days snow fell on the camp, ceasing only periodically. Intermittent winds whipped across the ridge and

lashed at the tents, filling them like nylon balloons. We stayed in our tents, wondering when the snow would cease and ventured out during the lulls to watch the mountains—the rugged peaks of ice, rock and snow which towered more than 20,000 feet above sea level.

On 4th June the mists cleared and Tim and I with three porters started up toward the new site we had selected two days before. Ken returned to Base; his feet had been affected by the cold, not seriously, though it was best that he get down to lower altitudes. Our previous tracks had been obliterated by the snow-fall and we now had to make new steps, a long and exhausting task. We reached the snow-field by 3 p.m. and could see the summit ridge clearly above us outlined against the blue sky. The porters were too exhausted to help us pitch the tents so Tim and I packed two areas five feet by seven in the snow and erected the two green tents. One porter helped for a while and then sat back in the snow with his elbows on his knees and his head in his hands like the others. The porters were suffering from the effect of high altitude and we hoped a night's rest would bring relief.

Our plan for the next day was to find a location for the next camp and deposit two loads there. Tim cooked oatmeal for breakfast which, together with hot chocolate, made a delectable meal. The porters refused to eat and had not recuperated. The sun was up by the time we left camp and started for the large couloir which dropped down from the summit ridge. At the base of the couloir we encountered an ice face which took over an hour to surmount. Steps had to be cut for the entire distance; by means of these and careful balancing, we worked our way up the steep, dark ice until we gained the top. The going up the couloir was tough and we alternated the lead as before until we reached the top at 3.30 p.m., where we deposited our loads beneath a large rock on the right side of the slightly dipping saddle.

Clouds had settled on the ridge. It was becoming cold and so after a fifteen minute rest, we turned back and descended along the earlier tracks to keep from getting lost in the dense fog which had enveloped the couloir. Rock buttresses loomed out of the weird mist and assumed grotesque forms as we hurried downward in the eerie silence. Back in camp Tim cooked hot tea for us and the porters.

Early on the 6th of June we packed the remainder of our gear and struck one tent for the move to Camp III. The porters were in no mood to go on so we sent them back to Base Camp with a note to Ken. Camp II would remain intact with one tent and

could be resupplied from below by fresh porters. Then Tim and I retraced our tracks of the previous day, balanced our heavy packs to negotiate the tricky ice-wall, and by noon established Camp III at 21,400 feet on the col above the couloir.

The key to the summit ridge lay in the three-hundred-foot rock face which hovered above the col beyond Camp III. By seven o'clock the next morning we had finished our hot chocolate and were striking the tent. We intended to pack everything but extra food forward to a higher camp and abandon this one. With our packs loaded and heavy, we carefully traversed the narrow snow cornice for two hundred yards and gained the rock. To our left the mountain dropped away suddenly, leaving four or five thousand feet of space between the knife-edge ridge, the rock wall and the narrow, winding glacier below. An anchor rope, left by the previous expedition, was still visible except where it disappeared in the snow-filled openings in the rock face. Tim belayed me from the cornice while I climbed the first pitch, and then we alternated the lead, keeping to the snow whenever possible.

By the time we made the top of the rock wall, we felt cold and tired and had to rest. Beyond us the ridge stretched forward toward the distant summit. We edged along the narrow corniced ridge several hundred yards until we came to two large boulders jutting out a hundred feet below the crest. The snow was unsteady in places and the steps didn't hold well; it would take several hours to climb to another site large enough to accommodate our tent, which meant pitching camp after night-fall. So we decided to place Camp IV here at 22,400 feet.

To make a level platform for the tent and thus avoid sliding away during the night, we dug into the snow with our ice-axes and using our boots, stamped out an area slightly larger than the base of our high-altitude tent; when anchored with ropes and ten-inch tubular aluminium stakes, it seemed sturdy enough. After we had crawled inside, Tim prepared supper and we talked over plans for the next day when we hoped to reach the summit. We rolled out our sleeping bags, I stuffed my boots into the bottom of my sleeping bag as usual to thaw out the leather, and we turned in. The night was quiet and clear.

June 8. At 6.30 after a light breakfast, Tim departed on a reconnaissance while I waited for the sun to come up to thaw out my boots which were still stiff. Fifteen minutes later, Tim returned out of breath and almost exhausted by the intense cold; he fell asleep after entering the tent and I waited thirty minutes before waking him. We drank another cup of hot cocoa, put on

our down jackets and started up from camp, hoping to reach the summit by one o'clock.

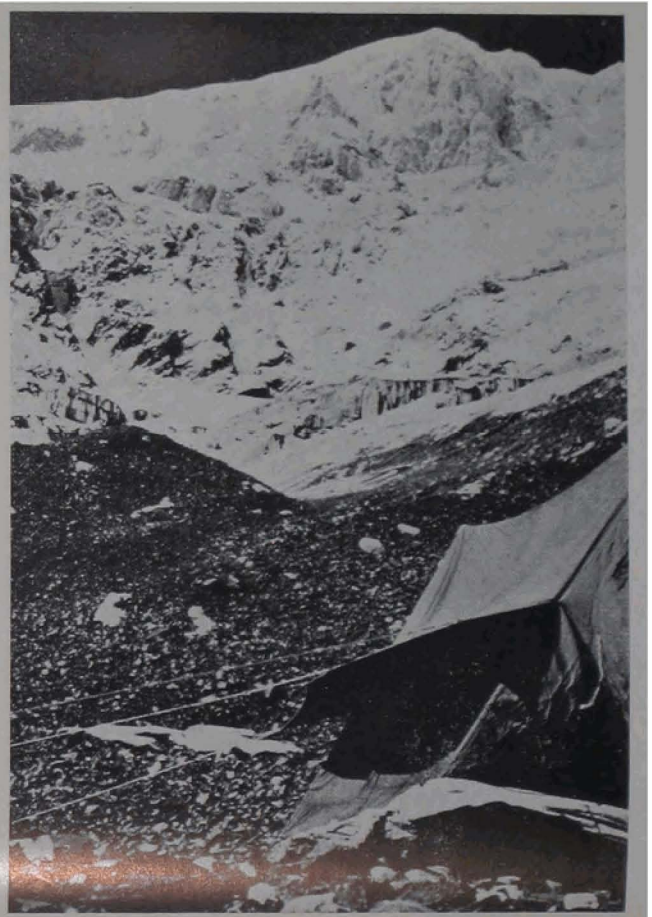
We cautiously worked our way along the crest of the ridge, for it was sheer on the left side with overhanging cornices and slanted steeply away on the right. In places the crest was less than a foot wide; watching our balance, particularly in places where the snow was likely to slide or give way, we made each step carefully and kept moving forward. A half mile beyond camp the narrow ridge expanded into a broad plateau which rose to what we thought might be the summit. Just below the highest visible point was where the English party had turned back in 1935. We inhaled five or six times after each step and climbed upward slowly, alternating the lead to share the task of breaking steps in the knee-deep snow.

It was a clear day and we could see the twin peaks of Tirich Mir behind us and far into the mountains of Afghanistan to the west. To the north, the next ridge swept westward toward an unnamed 24,000-foot peak. Small gusts of snow and wind blew up from the ridge, breaking the monotony. We had hoped that Istor-o-Nal would not produce exasperating illusions in the form of false summits, but our hope was not fulfilled. The first high peak of snow which we thought was the summit, was not. The distance to the end of the wide ridge increased instead of diminishing and we passed a second false summit. Beyond these we could see the ridge narrow and curve toward the right. Its south or inner face was precipitous and its narrow crest rose gradually to a point and then descended. Now we were nearly certain that our goal was in sight.

Keeping below the crest of the ridge to avoid overhanging cornices, Tim moved forward slowly, breaking steps in the snow, and I followed. Cloud formations began to drift in from the south, periodically limiting visibility. We kept trudging forward and upward for some time until finally we reached three small mounds of snow—fifty yards beyond, the ridge levelled and several hundred yards further, it fell away. We had reached the summit, 24,242 feet above sea level.

It was 4 p.m., late to be at the top, and cold. We caught only a glimpse of the distant peaks between two drifts of cloud when the second drift began to envelop the summit ridge. Planting our P.M.C. flag and Ken's regimental flag, we took two summit shots and munched some dried fruit and nuts, hoping for a break in the weather. The margin of time remaining for the return to Camp IV was slim. At 4.15, when the clouds showed no sign of

Above Camp III moving toward Camp IV on right. J. Murphy taken by T. Mutch.



View of Istor-o-Nal from Base Camp.

clearing, we decided that it would be risky to remain if we hoped to reach camp before night-fall.

We started down, retracing our steps along the narrow summit ridge, to the point where it broadened and then we descended until we reached the steep, narrow ridge leading directly to Camp IV. This last ridge was tricky as before and seemed eternally long. As the sky cleared and the sun dipped in the west, long shadows streaked across the glacial valleys and changing shades of orange silhouetted the peaks against the pale blue sky. We moved slowly over the cornices which in places leaned far out over the precipice, and keeping to the old tracks, we reached camp just before sundown.

We celebrated by digging into the most precious of our stores. Tim heated the soup, cocoa and oatmeal while I started restoring the circulation in my feet which had been frostbitten. After supper, Tim worked on the feet until 9 p.m. when the natural colour was restored; we crawled into our sleeping bags for the night.

The next morning, we didn't move until the sun came up; when it did, Tim cooked a hearty breakfast. The day was clear and bright. I started out first with a lighter pack and Tim packed up the tent and followed suit. It did not take long to reach Camp III where we retrieved some of the food we had cached there two days earlier. At Camp II, we found a tin of fried chicken and hard-boiled eggs sent up by the Major, which we split with the porters who had brought it up.

The descent was long and tiring, and reaching Base Camp was like coming home after a long journey. Ken met me several hundred yards from camp and half carried me the rest of the way, though I was perfectly able to walk. The porters were full of congratulations and it was good to see our faithful cook, Gulnawaz, again. The Chitralis are so emotional, it makes tears come to your eyes, despite your efforts to prevent them. Tim arrived a few minutes later to a similar reception and then we all drank hot tea and dug into our unopened bottle of brandy presented by a fellow climber to celebrate the occasion.

In order to prevent gangrene, it was necessary that I keep off my feet and be carried on a stretcher across the glacier, a rather embarrassing prospect. From the moraine we could travel by horseback. Ken sent for eight more porters and arranged to have horses meet us below the glacier. Two days later we left, I on the stretcher and the rest on foot. It was a rather exciting ride, as I was tied up like a mummy in my sleeping bag and bound

tightly to a makeshift frame of poles and cross-sticks. The porters carried me on their shoulders up and down over the undulate glacier; one minute I was looking at the dark ice and the next at the sky. Twelve hours later we arrived at the moraine.

Tim and I went on first the next day, while Ken remained behind to hunt ibex and handle the baggage. Below Zani Pass my horse gave up, utterly exhausted, and the local villagers packed me on their backs the last 2,000 feet through rain and snow-storm over the 12,000-foot pass. On the other side, at a village called Uthul, we acquired horses and rode the next fifty-six miles into Chitral. We arrived on the 16th of June only to hear rumours in the form of news reports that we had been lost in a crevasse on Tirich Mir and found two days later by the porters.

On the whole, the area we visited offers many advantages to the small expedition. The country is both interesting and attractive. There are reputedly more than 100 peaks over 20,000 feet, of which only two or perhaps three have been climbed. The local inhabitants, if trained and given sufficient experience, would probably make excellent high-altitude porters. Furthermore, the state officials and the Chitrali people were extremely generous, in providing assistance and help. In view of this, it is surprising that more expeditions have not visited Chitral.

See also ' A Climb on Istor-o-Nal ' by R. J. Lawder, *H.J.*, viii.—EDITOR.

THE RELATION OF SCOTTISH TO ALPINE AND HIMALAYAN MOUNTAINEERING

W. H. MURRAY

I. The Value of Scottish Experience to Alpine

A COMPARISON of Scottish, Alpine and Himalayan peaks is hardly required in *Mountain Craft*, whose readers will be already aware of the great differences in height, form, and glaciation. But a useful end is served if we relate the techniques of climbing in Scotland to those on higher mountains; we may then see where a Scottish training helps us and from that draw profit, and equally important observe in what respect it does not help, and so become more alert when climbing abroad.

All qualities of snow and ice found in the Alps and Himalaya are to be found also in Scotland, although certain qualifications are to be noted. Firstly, in Scotland new snow tends to cohere on the slopes from its first falling, and thereafter consolidates much more rapidly than Alpine, so that steep slopes may usually be safely traversed shortly after a snowfall, when, were they Alpine, they would be in a highly dangerous condition. Secondly, fresh dry powder lying on old hard snow is common in the Alps and liable to avalanche, but cannot be called common in Scotland although found there. The commonest source of avalanche in Scotland is the collapse in spring thaw of big cornices. After any very sharp rise in temperature, snow gullies should be avoided, even when not corniced, for rock and ice are both likely to fall from the retaining walls. Penalties are paid annually by climbers who disobey this rule. However, in cold weather excellent climbs involving much axe-work are to be had in the Scottish gullies, whereas Alpine gullies are to be avoided when possible, for at all times they discharge debris.

Rock-climbs either in the Alps or on lesser Himalayan mountains may often resemble the longer Scottish routes, and may occupy very much the same length of time. I am here comparing climbs I have done on Ben Nevis (e.g., Basin route, Slav route, and in winter the three big ridges) and in Glencoe (e.g., Garrick's shelf and Deep-cut Chimney under snow and ice) with Alpine climbs like the Meije from the Promontoire, the Grands Charmoz, the frontier ridge of Mount Maudit from the Col de la Fourche, etc. Although the Alpine climbs are longer the Scottish climbs may consume more time. However, that is not usual, and my main

point is that they have left on my memory the same general impression in regard to the type of difficulty encountered.

The lesser Himalayan peaks I have in mind are those between 16,000 feet and 19,000 feet mountains. These have given routes reminding me strongly of Cuillin ridges and Lochnagar buttresses. I speak here only of similarities in general character; likenesses can be still more marked when we come down to detail. Difficult pitches in the Himalaya are like difficult pitches anywhere else.

It is a merit of the long Scottish rock-climbs that pitches are usually separated by long stretches of easy rock. On these routes, and on snow and ice climbs, and on summit ridges like those of the Black Cuillin, or An Teallach and Aonach Eagach under snow, we learn the art of moving all together roped-up and at speed, on both the ascent and descent. It is important that we should become able to move safely without stopping to take belays on rock graded 'difficult', that is if we aspire to the better Alpine climbs. The ability to climb 'severes' is a further good help to this end, for it leads to greater confidence on difficult rock and so to less waste of time. Here I would stress the importance of quick rope-management and sustained rhythm, which are better learnt in Scotland than in England or Wales.

Practice in rope-management for Alpine work should include practice in abseiling. It is not adequate training to select one short crag and practise only on that, except as a beginning. Scotland abounds in cliffs of 800 to 1,500 feet on which descent can be made by abseiling a known route. This gives excellent training for the Alps, where the prior experience saves precious time, probably when really needed—for descents by abseil are not to be thought of as being the order of the day.

The most important contribution made by Scottish climbers to British mountaineering is (in my view) not in rock-climbing but in the development of difficult snow-rock-ice-climbing. It is for this reason that Scottish mountaineering makes such a valuable introduction to Alpine. The best season is mid-January to mid-March. Easter is almost always too late. Ice-pitches of the kind met in Scottish gullies (like Comb gully on Nevis or Crowberry and SC gullies in Glencoe) are not normally encountered in the Alps, but in acquiring the ability to deal with them we acquire all the skill to cope with the upper walls of Alpine bergschrunds, where these are climbable, or the ice-wall barriers on Himalayan ice-falls or open ice-slopes too steep for crampons only.

The Alps and the Himalaya, being inland ranges, get much less wind than the Scottish plateaux, which are seaward mountains

lying in the storm-track of North Atlantic hurricanes. In the Himalaya, the high-velocity winds, made notorious on Everest, are encountered above 23,000 feet. Below that level the Himalaya are relatively windless. The clothing that is adequate for a Scottish winter season is fully adequate for the Himalaya below 23,000 feet. Thus, at an early stage of my own climbing career in Scotland, I found that one windproof anorak was not enough in winter storm, nor was one balaclava helmet (it must be reinforced with a windproof hood) nor one pair of woollen mitts, nor one pair of trousers, nor were two sweaters. If only we can learn this early enough it may save our lives. One of my friends died in a recent hurricane through not learning it in time. In the last eight years six of my personal friends have been killed on mountains, for reasons dealt with indirectly in this and the following part II.

The rapidity with which storms rise in Scotland, the possibility of winter severity at any time of year, the speed with which snow-conditions alter, more especially on Nevis where soft wet snow is apt to turn to ice overnight without a warning sign seen below, and the heavy punishment these deliver to unwary climbers, are at least a useful preparation for the quick-change, Alpine weather (big peaks make their own), which, although less violent in itself, has more dire effect on the body by reason of altitude.

A genuine skill in Scottish mountaineering is fully sufficient to let a climber do good Alpine climbs guideless in his first season, and to deal competently with all ordinary difficulties—provided that he keeps off the bigger routes and has the company of a more experienced man than himself. The latter point is important; the Alpine scale gives rise to certain difficulties, conditions and dangers which a purely British-trained climber has not yet encountered, and with which he cannot expect himself to deal safely in that first season. If he can raise no such experienced companion, then let him still go but keep to easy peaks in good weather.

The aspects of Alpine climbing that cannot be experienced in Scotland, and of Himalayan climbing that cannot be experienced in the Alps, are the subject of parts II and III.

II. Alpine Craft distinguished from Scottish Climbing

The primary differences between Scottish and Alpine climbs are the same as those between Alpine and Himalayan—height, scale, and geographical latitude. All other differences derive from these. Thus the first difference to be noted is the incomparable greater

bulk of snow and ice that distinguishes Alpine from Scottish peaks.

Glacier work tends to cause Alpine beginners more anxious concern than the subject merits. Alpine glaciers are for the most part to be regarded less as obstacles than as highways to and from the peaks. Much of importance regarding their negotiation may be learned in advance from the textbooks and the rest is a matter of common sense, and of cramponing, axe-work, and rope-management—simple skills in which hard but intelligent practice will soon make an active man proficient.

As a consequence of more southerly latitude, Alpine snow becomes mushy from sun-heat after midday and dangerous where it lies on steep or exposed slopes. Scottish snow does not change appreciably in the afternoon; thus it is not Alpine in character, but Arctic.

On Alpine buttresses and big ridges, route-selection even on moderate climbs can be baffling and time-consuming, because of the greatness in scale. The problems of route-selection are met in Scotland on a scale insufficiently great to give us skill or confidence on first trying Alpine routes.

Sudden bad weather, catching us high up on a long Alpine climb, will more often be a serious threat to survival than its heavier Scottish counterpart.

These triple risks of deteriorating snow, time-wastage on route-selection, and sudden bad weather we can in large measure escape by the employment of good guides. If we are determined to do our own mountaineering, then we must learn and study the art of Alpine speed and pace, and discipline ourselves most thoroughly. We must adopt a much more business-like attitude to our climbing than we do in Scotland. In Scotland we must be tough in dealing with our climbs, but in the Alps we must be tough in dealing with ourselves. We never learn this discipline at home, for we are unregenerate. The Egyptian street Arabs, who never tire of telling us we are 'hard cases', are telling us the truth.

Speed in the Alps implies not so much fast moving as not wasting time. We cultivate rhythmical pace and hold to it. We cut out long halts for tobacco and talk; we handle the rope expeditiously; and whenever possible we move all together. We must be prepared to keep driving the body onwards, despite its marked inclination to ease off. And our starting time is anything from midnight onwards according to peak, route, and hut.

By these stern means we aim to get off our peak before noon and so avoid the descent of bad snow, and we are able also to earmark time for unforeseen delays in route-selection. I find it quite impossible

to exaggerate the urgent need for the unguided amateur, however experienced he may be, to provide for himself much more time than he thinks he will need. This, indeed, is almost the whole secret of carefree and enjoyable Alpine climbing—and of gaining objectives.

But we must follow up four further devices for increasing our speed or saving our time.

First, on the afternoon before our climb we should reconnoitre our route in its lower part. If this task is omitted, much time can be lost despite good weather on starting a modest climb like the Hornli ridge of the Matterhorn.

Second, in bad weather, it is always worth going up to a hut, and it is always worth starting out if conditions are not hopeless, for good weather comes just as suddenly as bad. We can withdraw before committing ourselves if the hoped-for clearance fails to materialize. The climber must not tempt the weather unduly as he may often do in Scotland. Penalties are too heavy. But the point is that we should not sit idle in the hut waiting to see if a promised clearance will really come.

Third, cramponing should be assiduously practised. (I assume here that we have learned to deal with steep snow and ice without crampons.) Guided parties can often dispense with crampons because guides cut ice at high speed, and the route being known they have plenty of time in hand. Guideless parties will save a vast amount of time if able to crampon well and safely, and if they start early enough to be able to use their crampons high on the mountain before the snow deteriorates. Good cramponing is not so simple as the confident beginner imagines. It demands practice on routes selected in rising standard of difficulty before a climber can with safety be let loose on a big snow and ice climb. Ignorance of these hard facts has led to much trouble, and to disaster.

Four, we can often increase pace by ensuring an adequate fuel intake. In Scotland, most climbers in good training can keep going all day on very little food. A habit is formed of eating only a bare minimum on the hills. And if this habit accompanies the climber to the Alps his performance will badly suffer. He becomes slower, more readily tired, and loathes to press on, despite good training. This trouble can often be traced to a low fuel intake. The truth is that Alpine climbing is much more exacting than Scottish. Food of high calorific value should be eaten frequently in small quantity. The more sugar an Alpinist can bring himself to eat the better the performance he is likely to give. (This truth has its limits.)

There is often a temptation to save time in the Alps, especially

during an unexpectedly late descent, by taking a 'short-cut', which seems obvious to the eye although not mentioned in the guide-books. In Scotland, if it be a gully, our yielding to temptation is folly; but in the Alps it is dangerous lunacy.

The chief objective dangers in the Alps are falling stones and ice. So are they too in Scotland, but the difference in scale needs no labouring. The fact that an Alpine route is much frequented does not make it safe. The Nantillons glacier, for example, is a notorious danger spot; it is sounder practice to climb the Grépon by the much harder route from the Mer de Glace. In fine, dry seasons, remember that the ice-pointing will be melting off the rocks, and that stone-fall may be expected from cliffs that are reputedly harmless. At such time avoid routes that are notoriously loose (e.g., the Brouillard ridge).

The most important quality that a climber can acquire is one that he may win on homeland mountains—an alert intelligence maintained day-long. This he must consciously practise until it becomes second-nature to him—an unconscious habit or instinct. That alert awareness has to be turned to every movement by the climber and his companions and to the state of snow, ice, rock, and weather, and be used in scrutinizing all routes proposed. For the peaks themselves he must foster a profound respect. Alert intelligence ranks above all other qualities that a mountaineer may possess, for with it he may go to any range abroad and be safe, subject to good fortune, which he may earn but not command.

III. Himalayan Climbing as distinguished from Alpine

A prior training in Scotland or the Alps is by no means an essential prerequisite for Himalayan mountaineering. A contrary opinion tends to creep into general acceptance as a result of the high qualifications rightly demanded by the Everest expeditions. But during these last five years I have met several men with good Himalayan records who had never climbed on other ranges. One can learn one's mountaineering in the Himalaya. For us, this would mean lost time and opportunity.

Scottish mountaineering, *in itself*, is by no means all-sufficient for successful Alpine climbing although a great help to that end, as shown in part I. Still less does it give *in itself* an adequate training for the Himalaya. An experience of Alpine climbing, preliminary to Himalayan, is highly to be desired, as will be obvious from my second article. It now remains to be said that

Alpine experience *in itself* is not fully adequate for Himalayan problems and conditions.

The Himalayan scale is so great that Scottish and Alpine experiences are almost equally useless in estimating it, save when we get high on our peaks—say about 4,000 feet from our summits. It is then our Alpine experience that gives any meaning to what we see.

From lower down on our Himalayan peaks, or from farther away, I have found it extraordinarily hard both to appreciate the real size of nicks and steps in ridges and the true angle of all slopes seen *en face*. The foreshortening is gross and deceives the eye beyond all belief. The real situation is ordinarily very much worse than it looks. For example, the average angle of a long Himalayan ridge may not be so very great. It looks easy. However, we note along its length a number of little walls and steepenings of angle. Drawing on our Scottish experience we reflect that any step not climbable direct can be turned on one flank or the other, and that angles seen *en face* are always less than they look. Or, drawing on Alpine experience, we may reflect the ice-slopes are probably as steep as they look, but will not be more. We have then to learn the hard way that angles seen *en face* in the Himalaya are normally *steeper* than they appear. (A good example is the Lhotse glacier of Everest, which looked a very easy angle when we first saw it *en face* from Pumori in 1951.) Ridges tend to be rawer and narrower even than we feared, and when we try to turn their steps we find the flanks so steep and uncompromising that they offer but poor alternative. Consequently, the very common error made by parties new to the Himalaya, however experienced they may be as Alpinists, is an under-estimation of both difficulties and distance, and the consequent attempt on their summits from final camps that are pitched too low. The result is that climbable peaks tend to be lost through exhaustion and lack of time. If they are won, it is with quite excessive strain on the climbers.

We do well to bear in mind Mallory's remark that the three golden rules in Himalayan climbing are (1) Reconnoitre, (2) Reconnoitre, and (3) Reconnoitre. They have additional merit in providing us with time and opportunity to acclimatize to altitude. Our bodies have power to adapt themselves to oxygen-lack, and like all powers they improve with practice. Previous Alpine ascents up to 15,000 feet are distinctly a help, for our bodies will afterwards adapt more quickly at least to that height.

Himalayan snow-conditions can be very different from Alpine. Under a clear sky before the summer monsoon it is not unusual for

sun temperatures to exceed 160° F. at great heights where atmospheric cold protects the snow. But at lower temperatures and altitudes—say below 20,000 feet—the sun's effect on snow can be alarmingly quick and devastating; especially so on southward-facing slopes, which must be dealt with most warily. I have committed myself to northward-facing snow-slopes in June and seen them turn dangerous shortly after 8 a.m., although they had been hard-frozen at night.

Himalayan snow will avalanche at lower angles than Alpine and in enormously greater mass. Side glaciers will sometimes shoot an avalanche across the full breadth of the main glacier; and to complicate the matter further the snout of a side glacier or hanging glacier may be hidden from below by a cliff or buttress. It is well to keep aware of these points and to exercise the utmost circumspection when siting tents. In glacier-filled valleys, pitch camps on the glacier rather than in the nullah between the moraine and the mountain-flank, and so use the moraine as a protective screen. On upper glaciers, pitch camp when practicable at the toe of a ridge, so that anything falling goes to one side. If tents are sited on or under a long open snow-slope (e.g., the Swiss on Chaukhamba or the Poles on Tirsuli), be aware that providence is being unduly tempted and be prepared in mind and soul for disaster. My experience of monsoon snow is that under no conditions can it be trusted, and that one must keep to the crests of ridges.

Autumn snow conditions appear to me to be very much more like the Alps in summer than are spring conditions. There is more opportunity for crampon and axe work.

Autumn night frosts high up are extremely testing, save in the Everest region below 20,000 feet, where temperatures seem to be higher than in spring. For peaks below 22,000 feet, clothing remains the same as for Scotland in winter, save that three pairs of socks will be wanted. But if three pairs of socks are crammed into boots made for two, the result is the reverse of that desired and will induce frostbite.

In my opinion, moulded rubber soles are the best for Himalayan as for Alpine boots, but I cannot regard this matter as important. They should have nails in the heels to secure the descent of steep, wet grass, long slopes of which are encountered in the central Himalaya. This again does not apply to the Everest region.

For the biggest Himalayan peaks, the most valuable training we can have is of long snow and ice climbs in the Alps. The long Alpine rock-climbs, so much favoured by British climbers of recent years, are distinctly less important. The most important lesson of all,

however, which we do learn in the Alps, is the need of perpetual vigilance and common sense. As a general rule, the pioneers and pundits-to-be of mountaineering do their best work when they are young and *relatively* inexperienced, not when they are old and wise. They live to become old and wise because an alert man with a basic common sense can safely go anywhere.

By Courtesy of the Editor of Mountain Craft

THE HEIGHT OF MOUNT EVEREST
A NEW DETERMINATION (1952–5)

B. L. GULATEE

WITH the consent of the Director of Geodetic and Research Branch of the Survey of India, Dr. B. L. Gulatee, the following extracts from Technical Paper No. 8, 1954, are reproduced.

The height now accepted by the Survey of India is given as 29,028 feet. But this figure does not appear to have been universally agreed on. And some criticism has been made of the said pamphlet, not so much as to the results set forth but in certain minor respects. The 'Doctors' however have not actually disagreed.

The weighted mean value of the height of Mount Everest works out to be 29,028 feet with a probable error of ± 0·8 feet. This probable error is derived from internal evidence alone and is likely to be too small on account of the presence of systematic errors. Bearing in mind the various possible sources of error, it is considered that the odds are 20 to 1 against this value being in error by more than 10 feet.

The height has been determined during the months of December to March. This is the period when the amount of snow on the top is likely to be least as the north-west wind is in its full stride. There is heavy precipitation of snow during the monsoon months—June to September—and, although there is no observational evidence available regarding the change of snow fall at the summit, it is likely to be well over 10 feet.

It might be of interest to record here that Makalu which rises from the main snowy range at a distance of 12 miles to the east of Mount Everest has also been re-observed for height. From the Darjeeling hills, this peak dominates the landscape rather than Mount Everest because it is about 12 miles nearer.

It is supposed to be the fifth highest in the world and has been very much in the news lately, as an American Expedition made a bid to conquer it in 1954 for the first time but had to turn back due to bad weather and difficult terrain.

Makalu was observed in 1849-50 from six low-lying stations in the plains, at distances of about 110 miles from it. Like Mount Everest, its height was also computed with a faulty value of the coefficient of refraction and without proper considerations of datum and deflection of the plumb-line and the value adopted

was 27,790 feet. In 1952-53, observations were taken to this peak from five stations at distances varying from 35 to 80 miles. The value resulting from these observations after taking due count of the geoid Makalu is 27,824 feet. This is the value which will be adopted for the future.

It might be noted that although the present observations enable the height of Mount Everest to be determined with a high degree of precision, they do not contribute to the question of the uplift of the Himalayas. The question of the amount of erosion at the top of such high hills and the secondary rise to achieve isostasy must still remain a matter of speculation. Although the rock summit is subject to violent seasonal winds, it is never bare of snow and the erosion is not likely to be considerable.

Summary.—The newly determined height of Mount Everest is 29,028 feet. It is but timely that the challenge of its height determination should have been met shortly after its actual conquest. This is the first time that the height of an important inaccessible peak has been determined by a rigorous technique involving a relatively complicated nexus of facts and ideas. Geodetic observations had to be carried close to the peak to get quantitative figures for the distortion of the mean sea-level and the tilt of the vertical produced by the colossus.

The new determination stands in a class by itself and its close agreement with the older value does not signify that the latter was well determined. It is really due to the fact that like is not being compared with like. Judged by modern standards, the earlier deduction of the height of Mount Everest was vague in several respects, and was burdened with large errors on account of neglect or incomplete consideration of certain physical factors. It so happened that by chance the various individual errors, although large, have tended to cancel each other.

There are several outstanding peaks in the Himalayan range -K2, Kangchenjunga, Nanga Parbat, Dhaulagiri, etc.—which also need treatment similar to that in this paper. Doubt still remains whether K2 or Kangchenjunga should occupy the next place. Their accepted heights are 28,250 feet and 28,146 feet respectively and the difference is well within the errors of older determination. Some recent observations have been taken to Kangchenjunga and preliminary computations show that its adopted height needs increasing by 60 feet or so.

Highly-placed Pundits are still arguing about the height.—EDITOR.

NOTES AND EXPEDITIONS

PROFESSOR GHIGLIONE'S EXPEDITION TO API

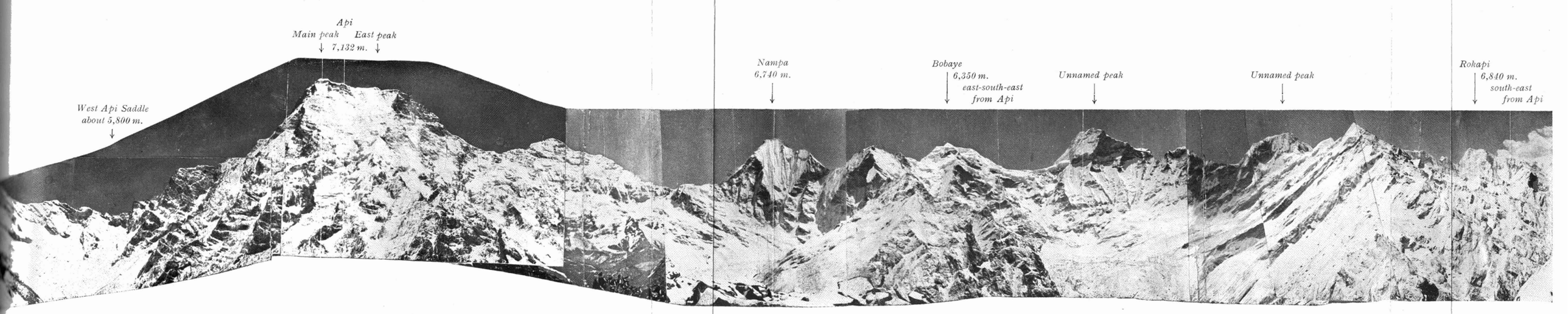
In April 1954, Professor P. Ghiglione accompanied by Ing. C. Barenghi, Dr. G. Rosenkrantz and Dr. R. Bignami left Italy for the Himalayas with the object of exploring the Api-Nampa-Saipal chain from the south and, if possible, to attempt the ascent of Api. In Delhi they were joined by Capt. Puri of the Indian Army, who had been appointed liaison officer to the party, and three Sherpas from Darjeeling led by Gyalzen H.C. No. 145. On the 25th April the party left Delhi by rail for Tanakpur and thence by bus to Pithoragarh. In this pretty village nearly 6,000 feet high they collected some 32 coolies and started on the 29th April for Joulaghat, a little frontier village of West Nepal on the Kali River.

Ten days of hard marches through jungle and forest brought the party to the foot of Api where they established their first base camp at about 13,200 feet on a big plateau to the south of the mountain.

For some days they reconnoitred in the neighbouring valleys looking for a possible route to the top of Api but without success. From a camp at 16,570 feet up one of these valleys to the south-west of the mountain they climbed to a steep saddle at about 18,400 feet, from which they obtained a glimpse of the north side of Api, but mist prevented any detailed examination. The next day, 17th May, they climbed with difficulty to a point about 19,200 feet, from which they saw enough of the upper north face of Api to persuade themselves that it was climbable.

The party returned to their base camp, and after recruiting new coolies from the lower villages, set off on the long and difficult trip to Api's northern approaches. On the 24th May when crossing the Chamlia River, Dr. Bignami lost his balance on the flimsy and insecure bridge and fell into the river. He was swept away by the strong current, and though the other members of the party searched for two days they found nothing. This tragic accident was a severe set-back for the expedition, but they pushed on and eventually reached the banks of the Kali River.

Here the party split; Rosenkrantz, Capt. Puri with one Sherpa and some coolies crossed the Kali and went on to Garbyang, while Ghiglione and the rest of the party continued for five days along difficult tracks to Budhi and the Apikola, which is a valley to the north-west of Api. The second base camp was pitched on the



A panoramic view of the Api-Nampa range
(taken 13th May, 1954, at about 10 a.m. from a point about 4,700 m. to the south).

Note: *The original photographs were damaged in transit.*

Eng. P. Ghiglione.

NOTES AND EXPEDITIONS

PROFESSOR GHIGLIONE'S EXPEDITION TO API

8th June on a flat grassy patch of ground at about 13,200 feet on the same spot as Murray and Tyson had put their camp in 1953.

The next day Ghiglione, accompanied by Barenghi and Gyalzen, reconnoitred the approaches to the summit by the West Api glacier. After a whole day's hard work they came to the conclusion that the best route would be up steep grassy slopes to some rock buttresses, and then on to the first upper glacier. From there the route proceeded up another glacier which brought it to the foot of the final snow wall of Api.*

Ghiglione and his two companions returned to base camp in the evening when they met Rosenkrantz coming up from Garbyang. It rained that night but the next morning, the 10th June, the weather cleared, and Api, when examined through field glasses, looked very inviting. Rosenkrantz wished to climb the mountain at once as he wished to be back in Italy by the end of June. Ghiglione strongly recommended caution and pointed out that Himalayan peaks cannot be climbed in a hurry as Rosenkrantz wished to do. However, the decision to attempt the summit was made, and everything was made ready to start the assault the next morning.

The next day Camp 1 was established at the bottom of the western glacier. Camp 2 at 17,700 feet was placed on the upper part of a high moraine and on the night of 13th June the whole party slept there. On the 14th June a steep ice couloir was traversed and the route through a maze of crevasses was flagged to a point where Camp 3 at 20,170 feet was established.

Ghiglione had planned to establish Camp 4 at about 21,650 feet, this camp to be stocked with sleeping bags and food so that, weather permitting, two parties could make a try for the summit on 16th June. But Rosenkrantz was in a great hurry and wanted to make the ascent from Camp 3 and return to Camp 2 all in one day, and Ghiglione's attempts to dissuade him were in vain. Rosenkrantz with Barenghi planned to start at midnight but the weather prevented this and it was not until 6 in the morning that they got away. Ghiglione and Gyalzen followed about half an hour later, and after a little while Ghiglione told the Sherpa to push on ahead and join the other two.

Ghiglione continued alone until about eleven o'clock by which time he had reached the foot of the last ice wall; the weather had deteriorated considerably during the morning. Remembering that the two Sherpas who had been left behind had been instructed

* This great ice wall, much crevassed, gives access to the twin peaks of Api; the true summit, 23,399 ft., is that to the east. *H.J.*, ix, p. 38 *et seq.*, *A.J.*, 289, Nov. 1954, p. 421 *et seq.*

by Rosenkrantz to take down Camp 3 that afternoon, Ghiglione decided to return. In the worsening weather and mist he managed with some difficulty to retrace his steps to Camp 3 where at about 2 p.m. he was joined by the two Sherpas. They climbed up the snow ridge above the camp and thought that they glimpsed three dots high up but still far from the top. After a rest in camp Ghiglione sent the two Sherpas out to meet the three climbers. The weather continued to deteriorate and late in the evening the two Sherpas returned to camp without any news of the climbers. That night it snowed heavily and next day Ghiglione and the Sherpas searched as far as they were able in the thick mist. The following day there was a slight improvement in the weather and they searched again but without any success. As their food at Camp 3 was nearly all gone, Ghiglione decided that the only thing to do was to retreat to Camp 1 which they reached the same evening. Early the next morning Gyalzen stumbled into Camp 1 almost unrecognizable, completely exhausted and partially snow-blind.

The following account of what had happened is based on Gyalzen's statement which he made to Ghiglione.

After Gyalzen had left Ghiglione he quickly overtook Rosenkrantz and Barenghi, and all three roped up for the climb to the summit. Some distance below the summit (which summit is not clear from the account) Rosenkrantz began to suffer badly from the effects of altitude. On Barenghi's instructions Rosenkrantz was unroped and asked to wait where he was until the other two returned after reaching the summit. Rosenkrantz tried to crawl after them, and Barenghi told Gyalzen to go back and look after him while he would go on alone. Gyalzen, being very worried by Rosenkrantz's condition, called out to Barenghi to return. Barenghi, however, did not seem to hear, and soon disappeared in the mist. That was the last that Gyalzen saw of Barenghi. What happened afterwards may be told in Gyalzen's own words.

'I proceeded towards Camp 3 with the Doctor. He was violently sick and his brain was affected. He kept on leading towards the most dangerous crevasses. However, I pulled him along. There was fog and our movements were slow. Night approached while we were still at about 23,000 feet. We spent the night in a small crevasse and I kept myself and the Doctor warm by massaging our limbs. We proceeded again the next day and when the sun came out I became snow-blind. We came down to about 21,650 feet and rested for the night. It was very cold and the Doctor was mentally quite deranged. I kept him warm by rubbing his body, but approximately at 3 a.m. the Doctor passed away. I laid him down and

Api (23,399 ft.) showing the great ice wall.

covered his head with the hood of his coat. When the day broke I started to come down with the Doctor's rucksack in addition to my own; this was, however, lost during my fall in the crevasse.'

Somehow or other Gyalzen, although exhausted and snow-blind, managed to make his way down to Camp 1 where he rejoined Ghiglione, and the fact that he ever reached there speaks highly of this Sherpa's courage, stamina and devotion to duty.

What had happened to Barenghi and how high did he get? To quote from Marcel Kurz in the 'Mountain World' for 1955, 'In conclusion this must be said: how Barenghi ended no man knows. Was he torn off the ridge by a gust of wind? That he climbed the true summit of Api is possible but not certain. Whether he also reached the west summit of Api is quite unknown. The end of the struggle for Api remains a tragic secret that will perhaps never be cleared up.'

V. S. R./H. W. T.

It will be realized that the tragic story of the Italian attempt on Api cannot be passed over without comment. No version in English of the leader's book has yet appeared, but the title signifying 'Tragedy and Heroism' is surely fitting. For three of the party lost their lives, while the indomitable gallantry of the Sherpa Sirdar, Gyalzen, is itself an epic. As with Mallory and Irvine on Everest and with Duplat and Vigne on Nanda Devi it will never be known what befell them after they vanished from human sight; so with Barenghi, who may have reached the summit ridge or even the central summit. There is no witness. Barenghi's fatal solo attempt brings to mind the incredible 'tour de force' of Hermann Buhl on Nanga Parbat. His survival was little short of miraculous. Reminiscent too of Nanga Parbat is the unswerving devotion of Gyalzen to the dying Rosencranz, like that of the faithful Gaylay who would not leave his leader, Willi Merkl, and died with him. It seems evident that the two younger Italians, who had not the indispensable Himalayan knowledge of their veteran leader, rejected his guidance and pressed on despite unfavourable conditions. And so, like the two gallant young French climbers, they paid the penalty. The high Himalaya has her armoury of defensive weapons.

H. W. T.

H. W. TILMAN'S EXPEDITION TO THE ANDES

Bill Tilman, one of our oldest Life members, is now in the middle of his endeavour to explore the almost invisible ice cap—some

10,000 feet in altitude, near the southernmost tip of the Andes. He had started out with the same objective in the summer of 1954, from Majorca. But through sundry vicissitudes he was forced to return to Vigo to which port a Lymington yachtsman flew out to help him back. The following winter was spent in reconditioning his ex-Bristol-cutter, 'Mischief', and reorganizing. With two other gunners, an auspiciously named hand, 'Van Tromp', and another experienced ocean cruiser hand, he set sail again from Lymington, early in July, for Las Palmas, Monte Video and the Magellan. He was given a send-off from the Royal Lymington Yacht Club with its starting gun and arrived at Punta Arenas (on the west coast of Chili), about mid-November. At the time of writing he is out of ken, but his latest word is that he hopes to be in Valparaiso about mid-March, and make his way home through the Panama Canal.

H. W. T.

✓PROFESSOR MASON'S 'ABODE OF SNOW'. By W. Allsup and H. W. Tobin

This splendid compendium, compiled by one who was, for its first twelve volumes, Honorary Editor of our Journal, needs no recommendation to our members, nor indeed to the many persons interested in mountains generally, especially those of High Asia. No one could be as well qualified as Colonel Mason to undertake this long neglected job for he has spent most of his service in the Survey of India and has himself travelled far afield. He has extracted information not readily obtainable, both from the Survey's records and from books long out of print. The *Himalayan Journal* still lacks a general index, though the *Alpine Journal* has several; so in this volume we are given a conspectus of all of them, well adapted to all practical purposes.

One of the Appendices is a 'short bibliography'. There is no mention in this of a much earlier work bearing the same title, written by the late Andrew Wilson, 1831–1881. This was reviewed at length, apparently by D. W. Freshfield in *A. J.*, Volume VIII. Freshfield was Editor at the time and the review describes Wilson as the 'Pioneer of climbing in High Asia'. The body of the book is divided as follows:—The Mountains and their Approaches. Early History to 1885.—This deals not only with exploration but also with the intrepid 'Pundits' of the Survey of India, whose fascinating story is retold here. Successive periods, 1886–1918, 1918–1928, 1929–1939, 1939–1953, an Epilogue and '1954 and the Future'. Not only is the

text most readable with information readily found, but the book is light enough to handle with comfort, differing in this respect from many other Himalayan books.

No book of this kind can be exempt from criticism and there are certain passages which call for remark.

To wit, the revival of the age-old controversy over W. W. Graham's 'ascent' (the inverted commas are Professor Mason's) of Kabru in 1883. The identity of Graham's Kabru with the Kabru so gallantly assaulted by Rubenson and Aas in 1907 and scaled by C. R. Cooke in November 1935, is again questioned. Prior to Cooke's success, two of our greatest mountaineers had upheld Graham. About the time of his claim doubt was also cast on his ability to climb 'fantastically fast at such a height'. It should be noted that Longstaff's ascent of Trisul, with the Brocheres, was equally speedy. Of course maps were far from trustworthy at that time, but an ice-fall can change a lot in fifty years. However, Graham may have made a mistake, and, as the Professor writes, 'in the Himalaya he would be neither the first nor the last to do so'.

The Professor has rendered graceful tribute to the Founders of the Mountain Club, of which Bruce was the first President, and has praised the spirit of co-operation and good-will through which the merging with the Himalayan Club was achieved. But we have been asked by parents of the Mountain Club to elucidate the statement made that the two were born independently and almost simultaneously. Talks had been going on for years with no tangible result until the Mountain Club was inaugurated. Its birth on 23rd September, 1927, was the outcome of a talk on the Alukthang Glacier in 1925. The Himalayan Club was conceived on 'the path behind Jakko' at a talk thereon in October 1927 (vide *H. J.*, Vol. I, page 1) and the Club came into being on 17th February, 1928. The two were formally amalgamated in 1929 and with a strong 'Eastern Section' in Calcutta. The claim to approximate twinship seems hardly valid, though in sooth the shorter period of gestation of the younger Club did not, by any means, affect its healthy growth. It is a pity that the old 'diehards' of Bengal were not in closer touch with those of like spirit in Simla, the U.P. and the Punjab. It is true that the actual foundation dates of some of the older climbing clubs have been in question, but we feel that in connection with a standard work of reference, such as that of Professor Mason, the correct sequence of events should be known.

In a later chapter Mason has written briefly on 'Weather in the Himalaya', giving an analysis of normal conditions in different

regions. But the Assam Himalaya has been somewhat neglected, partly because it has been so little visited, partly because so much of the region is in the early stages of administration and because means of communications are still primitive. Plant hunters have been the chief source of our knowledge. But the joint author of this article Allsup made observation during his fifteen years of continuous touring and confirms Mason's statement that the further east one goes the less the effect of the monsoon winds. C. R. Cooke, who was telegraph engineer from 1930 onward, promoted the 'Autumn Theory' put forward to the Himalayan Committee in 1939. That is 'go for the reasonably high climbs in autumn and have cool dry marches, with little or no rain in camps, but anticipate sleet or snow higher up'. Assam has not the advantage possessed by Sikkim or a capital situated like Gangtok, well within her hill-system. But with good glasses observers have been able to identify cornices and berg-schrunds. Neither have snow plumes from high summits been perceived, nor has snow being blown from high ridges been seen. So possibly in future years small parties will be able to penetrate the little known parts. With reference to Appendix B, 'On Determination of Himalayan Heights,' it should be noted that controversy and argument between certain of modern 'Pundits' has not ceased; especially over the revised height of Mount Everest.

And again, though mention has been made in several places to the Hunzas, it would be useful and relevant to add an observation to the effect that luns fine clagsmen are rapidly becoming the Naiahvam equivalent of the Himalayan Sherpas. Also that, though not yet ruled out officially, the employment of the latter in Pakistan would not, to put it mildly, be popular.

One slip only has been spotted. Gosainthan is referred to as a shrine of pilgrimage for Hindus, like Muktinath and Pashpati. Surely the sacred lake, Gosainkund, is intended, for Gosainthan is within forbidden Tibet, towering up to 26,291 feet.

The sketch maps, as would only be expected, are first class and a remarkably fine selection of photographs has been given. Of these one of the most impressive is that of 'The Monsoon about to burst', taken from Mussoorie.

IN MEMORIAM

EDWARD FELIX NORTON

1884-1954

LIEUT.-GENERAL E. F. NORTON, K.C.B., D.S.O., M.C., died last November. He was educated at Charterhouse and 'The Shop' from where he joined the Royal Artillery. During his service he held many distinguished appointments, and achieved high rank in the Army; he was in addition an A.D.C. to the King, a Colonel Commandant R.A. and Colonel of the Royal Horse Artillery—possibly the three appointments he prized above all others.

The first time I served in close association with him was between the wars, at the Indian Staff College. His appointment to that institution was a singularly happy one, by reason of his interest in and sympathy with the younger generation as well as because of his experience in the first war and the prestige attaching to the distinctions which he had earned. He was too a well-known hog hunter and mountaineer and held the Founder's Medal of the R.G.S.

We had many scrambles together and with some of the Staff College students on the Quetta Mountains. It may have been the rumour of these activities which led a strange staff officer to hope, somewhat apprehensively, that—'You, sir, are not one of these eccentric mountaineers'—To my great regret, I was not present to hear Ted's reply, 'dear me no, I merely potter about on the lower slopes'. The story is no doubt still being told at what is now the Pakistan Staff College. Those days are a happy memory for those of us who were privileged to serve with him in Quetta.

He was a founder member of the Himalayan Club and an original member of the Mountain Club of India; his major expeditions were in the Himalayas. He accompanied the Everest Expeditions of 1922 and 1924, and owed his first selection to an Alpine rather than to a Himalayan qualification. How good was the choice became evident in 1924 when, after the retirement through sickness, of Charles Bruce, the leadership devolved on him. On each occasion he was one of those to go highest, and the altitude of over 28,000 feet which he then achieved without oxygen, has only been exceeded with its aid.

His knowledge of Everest was unique, in addition to his first hand experience of it, he had given an immense amount of study to every technical and psychological aspect of the mountain and

of those climbing it. Every expedition since 1924 consulted him before leaving England, and Hunt has told of his emphatic advice on the situation of the highest camp on the mountain.

Many fine pictures have been taken on Everest, among them is one of Ted by Somervell from 28,128 feet. Not a very striking picture perhaps at first sight but one which brings out the tenacity of purpose in every line of the solitary figure, 'alone but still advancing'. The magnitude of his achievement on that occasion, is even more strongly brought out, by a comparison of the figure in Somervell's photograph with the elaborately clothed and equipped ones in more recent pictures taken at about the same altitude.

Ted's views on the use of oxygen were old-fashioned; he was, I suspect, glad to be able to give as the reason—or was it perhaps the excuse—for not using it in 1924 that the apparatus was too clumsy,—maybe he was not satisfied that oxygen was altogether a fair weapon to bring against a mountain such as Everest. He was certainly mildly shocked when professionals, for the first time, appeared in what had previously been an amateur field. His feelings on these matters were in keeping with his dealings with his fellows. He was always scrupulously careful to ensure that no act of his should be in any degree unfair or ungenerous to others, which largely accounted for the respect and love with which he was regarded by those privileged to climb with him or to serve with him in the Army.

On his way Home from the East during the second war, he called at Cape Town, where he addressed the Mountain Club of South Africa, and received from them, the highest distinction the Club can bestow, that of Honorary Life Membership. To do honour to the occasion, he wore the most dignified kit available from his scanty wartime wardrobe, the blue serge of a Colonel Commandant R.A.

Later he told how, on the way to the Club, in a bus, a lady passenger with obvious sincerity, pressed half a crown into his astonished hand—'for the Salvation Army'—This unexpected promotion added greatly to his enjoyment of the evening.

Ted had a love of nature and of wild life—a strong dislike of publicity, and the Englishman's habit of understatement. He had a high regard for the common people of India, particularly those of the Kadir Country and the Mountains, and he took great pains to speak and to understand their languages. It is not only among his Army and Mountaineering friends that his loss will be mourned.

R. C. W.

DR. TOM G. LONGSTAFF writes:

In parting with Norton the Club has lost a man of the most outstanding character and of the greatest personal charm. He was second to none. Always prepared to undertake any responsibility in the field or on the mountain, his innate modesty also prevented his accepting the most pressing invitations to become President, so that he was not personally so well known to many of our members as he should have been. Although a grandson of Wills and inheritor of the historic 'Eagle's Nest' at Sixt, he insisted that the exigencies of his profession had prevented his acquiring that personal knowledge of the Club and its affairs which he considered essential for a President. Yet at 'The Chalet' he had met, as a boy, several of the Fathers of the Club and later entertained there many of the most eminent members of the next generation.

As a Horse Gunner he was pre-eminent; as a horsemaster, as a horseman and as a considerate friend to the men of his Battery: in the old days of long service a battery was a family in a way which is hardly possible today. The writer well remembers staying with him near Norwich when he commanded the Experimental Mountain Battery and his sad reply, on being congratulated on his forthcoming promotion, that this was the last time he would command individual men and that in future his contact with them must be indirect.

He served several years in India in Wardrop's (General Sir Alexander) celebrated Horse Battery and took naturally to polo and pig-sticking, at both of which great sports he proved adept. He also took to tiger shooting, of which Wardrop and his friend Harold Branford were renowned experts. At the Eagle's Nest he and his brother, Major J. H. Norton, were the only successful chamois hunters on that ground; it was not preserved but the natives could not face the difficulties of the terrain. Climbing there with him on one occasion I complained that every single hold was loose: I was coolly recommended to push them in and trust to balance, as he did when carrying down a chamois with its legs tied together round his neck.

He got great pleasure from his love of natural history; especially of birds and flowers. At the Eagle's Nest he would show the great Black Woodpecker or the Wall Creeper, introducing them almost as personal friends. Before the Everest Expedition of 1922 he spent hours at the Natural History Museum examining specimens in the Bird Room and getting from Kinnear a list of those species which were specially wanted for the national collection, for he was

most averse to unnecessary collecting. We had to get a specimen of the rare Ibis-billed Curlew for dissection and I well remember his skill in circumventing this wary bird and then wading the deep cold river of the Chumbi Valley to recover the specimen from an island in midstream. He also made a valuable collection of the scanty flora for Kew.

He greatly distinguished himself in the first German war and in the late war held several very important commands, including that of Hong Kong, but to his deep regret was never in the firing line.

He was a Galahad. Yet it is as the perfect companion that he is lamented, but remembered always with joy.

(By courtesy of the Editor of Alpine Journal.)

PHILIPS CHRISTIAAN VISSER

1882–1955

IN the fifty-odd years of its existence, the Netherlands Alpine Club has produced no more distinguished mountaineer than our late member, Dr. P. C. Visser.

He was born at Schiedam in Holland on May 8, 1882, and died at Wassenaar on May 3, 1955. He had been a member of the Alpine Club for nearly forty-two years.

Educated at Schiedam and Rotterdam, he entered the family manufacturing business in Schiedam. He went on a climbing expedition to the Caucasus in 1914, but on account of the outbreak of war had to return by a circuitous route through Russia and Sweden. In 1916, as Secretary to the Netherlands Ambulance organization in Russia, he took up his headquarters in St. Petersburg, remaining there until the 1917 Revolution. His other official appointments were:

1919 Honorary Secretary of the Netherlands Legation, Stockholm.
1931 Netherlands Consul-General in Calcutta.
1938 Netherlands Minister to Turkey: and from 1941 also to Iraq.
1945 Netherlands Minister to South Africa.
1948 Netherlands Minister to the U.S.S.R.
1950 Netherlands Delegate to the United Nations' Balkan Commission.
1952 A member of the Netherlands Defence Centre.

He commenced climbing in 1902 and from then onwards, for every year up to 1913 (the year of his election to the A.C.), he was in the Alps. In 1912 he married Miss Jenny van't Hooft, who became a constant companion on his mountain expeditions, both in the Alps and in the Karakoram (*A.F.* 51. 329). To list all his climbs would be pointless, involving as they did most of the standard routes round Zermatt and in the Oberland, the latter a region that he frequently visited. He himself recorded, for those who can read Dutch, some of his experiences in *Boven en Beneden de Sneeuwgrens* (1910). Professor Finch gives below some account of his 1910 campaign with Visser, but the latter had already done quite a lot of guideless climbing, in the Dauphiné and Valais, including what was thought to be a fresh variation on the south face of the Cornes de Pié Bérarde.

Between the two wars his four Karakoram expeditions (1922, 1925, 1929-30 and 1935) occupied most of his time spent on mountaineering, though he went to the Alps in 1924 and paid a visit to Nepal in 1932. Whilst Minister in South Africa he took the opportunity to climb on Table Mountain and to visit the Drakensberg; he was an honorary member of the Mountain Club of South Africa.

But it is by his expeditions to the Karakoram that his name will be principally remembered in the history of mountaineering. In 1922 he and Mme Visser-Hooft, with Franz Lochmatter and Johann Brantschen, visited the Sasir-Kangri, and he read a paper to the Club on the results of the expedition on April 10, 1923 (*A.F.* 35. 75). The 1925 venture was to the north of the main Karakoram range, in Kanjut, a district of Hunza, and was the subject of a pleasant volume by Mme Visser-Hooft, *Among the Kara-Koram Glaciers in 1925* (*A.F.* 39. 186): Franz Lochmatter and Johann Perren were the guides on this expedition. The later expeditions took the Vissers northwards as far as Yarkand and Kashgar, and eastwards of the Karakoram Pass. Dr. Visser's own writings were strictly scientific and abound in details of the zoology, ethnography, meteorology and glaciology of the areas he visited (*A.F.* 51. 152).

His distinguished services to mountain exploration were recognized by an honorary membership of the Netherlands A.C. (1923), by the Gold Medal of the Société de Géographie (1927), and by the Back Grant of the R.G.S. (1929). Among other distinctions accorded him was honorary membership of the Guides' Society, St. Niklaus.

Mme Visser-Hooft died in 1939 and Dr. Visser married again, this time Miss C. A. de Graeff, to whom the Club extends profound sympathy on her loss.

T. S. BLAKENEY.

PROFESSOR G. I. FINCH writes from Poona:

My records and photographs of the pre-1914 era are not with me, so I can only quote from memory. I met P. C. Visser first in 1909 in Zermatt. It was late in the season and we went for walks together and patronized the Shoehorn boulder. Eventually we climbed the Lyskamm, after having attended the Schönbühl hut opening with Whymper. In 1910 we climbed in Chamonix and did the Moine and some interesting needles on the Moine-Aig. Verte ridge; the Requin; traversed the Tour Ronde and a number of other peaks.

I visited Visser and his father in, I believe, 1910 or 1911 in Schiedam and met Miss Jenny van't Hooft, whom Visser later married; she herself was a keen climber. Visser and I did no further climbing together, but we kept in touch throughout the years. The last time we met was in Zermatt in 1949, when Visser made his last ascent of the Matterhorn, an event which we celebrated as it should be celebrated.

Visser was a warm-hearted, kindly gentleman with a strong sense of humour. He had a great love for the mountains and did much to stimulate a like interest in Holland; the Dutch A.C. owes much to him. Visser could climb fast if the occasion demanded, but he preferred to take his time and taught me to do what he himself loved to do, to savour every moment spent on the mountains.

Visser rose high in the Diplomatic Service of his country. As Consul in Calcutta, he found time to explore and climb in the Karakoram with Jenny, and in Istanbul he climbed in the Anatolian mountains. Jenny's death was a terrible blow to him, but later he married again and regained his happiness.

I always remember him for his innate kindliness, his infectious good humour, and his great love of the mountains and sound appreciation of the meaning and aims of mountaineering and mountaineering endeavour.

WE much regret to report the death, while this Journal was in print, of the Rt. Hon. L. S. Amery, C.H., President of the Alpine Club, 1944–1946.

WITH deep regret we have learnt of the recent death, on the Aiguille Noire de Peteret, of Louis Lachenal who, it will be remembered, was Maurice Herzog's companion on the spectacular ascent of Annapurna, losing all his toes on the mountain. Our sympathy has been duly expressed to the Club Alpin Francais.

REVIEWS

THE MARCHING WIND. By COLONEL LEONARD CLARK. *Hutchinson, London. Pp.* 346. 30 *photos and* 5 *sketch maps.* $9\frac{1}{2}'' \times 6\frac{1}{2}''$. 21s.

The author has made a great contribution to our knowledge of an unexplored, and almost unvisited region of Central Asia. His chief incentive and primary objective was the great Amne Machin mountain range in the extreme north-east of Tibet, the existence of which had been reported by American pilots flying over the 'Hump' during World War II. The mountains had been observed, from some distance, by Dr. Joseph Rock about 25 years earlier. And before that, in 1908, by the German, Von Filchner. Colonel Clark had already made four visits to China, the last having been on special service behind the Japanese lines during World War II. So he did not lack qualifications. The Amne Machin runs roughly from south-east to north-west about 80 miles south of the great Koko Nor lake, and within a great bend eastward of the Yellow River. Dr. Rock describes it as 'One of the grandest mountain ranges of all Asia.'—'And the central peak towers to more than 28,000 feet.' But this shadowy part of High Asia is inhabited by one of the fiercest and most predatory of Central Asian tribes, whose opposition to penetration of their sacred high places would surely be intense. However Leonard Clark had not only 'a way with him', but was blest with good fortune. First he linked up with a Torgut Mongol 'prince', Tsedam Dorje, master of many tongues, with western education and thoroughly well versed with the political set up in Western China. Exiled from Pekin, he was working as translator and interpreter at the Catholic Mission in Lucknow. The two made a pact to enter forbidden Tibet. Luck held, for they obtained an introduction to Ma Pu Fang, the Tungan Governor of Chinghai and Generalissimo of the only Nationalist armies still intact in 1949. These were composed mainly of Chinese Moslems. At Sining, China's westernmost city, Colonel Clark seems to have planned with that colourful, keen anti-Communist leader, a scheme whereby his activities should become the eastern wing of a continent-wide Moslem attack on totalitarian communism. The idea so appealed to Ma Pu Fang that he gave unstinted help to further Clark's plans. These were to include, not only exploration of the Amne Machin group, but examination of the true source of the Yellow River and inspection of the Chinese advanced post on the edge of the Tsaidam. From Sining an equally

vital and fruitful contact was made, in the course of a personal visit to the Panchen Lama, then residing in the cloister city of Kumbun, a short distance to the south. His Holiness agreed to dictate and to issue a command to all Tibetans, requiring them to assist and to refrain from hindering Clark's work in Tibet. It seems more than likely that the Panchen (or Tashi) Lama envisaged himself seated in the not far distant future on the Dalai Lama's throne in Lhasa. The chief danger to Clark would be from the Ngoloks who did not confine their activities to guarding their sacred mountains, but who raided, and slew far afield. However a nominal 'peace treaty' was arranged, and as a further safeguard the Governor insisted that they should join up with a strongly escorted caravan then leaving for Lhasa. The escort commander, Colonel Ma Sheng Lung, turned out to be another colourful and resourceful individual. Indeed the two, with their boldness, their zest for adventure and their high spirits were like a Central Asian re-incarnation of the Three Musketeers. Alarms and skirmishes, not without loss to the Ngoloks, punctuated the marches south-eastward from Sining. Nevertheless from their Camp 14, on the north-eastern spurs of the Central Amne Machin, they succeeded in taking observations albeit with a somewhat scratch collection of implements. These consisted of a theodolite loaned by the 'Chinghai Highway Bureau', Von Filchner's old German army instruments, Dorje's aneroid and a boiling point thermometer. In his note Colonel Clark gives the height of the main peak as 29,661 feet as compared with his figure for Everest of 29,144; thus making Amne Machin higher by 517 feet. But in his preface he qualifies this saying that owing to the inadequacy of the borrowed instruments there may well be an excess of 2,500 feet upwards or downwards. While the surveying was in progress the clans had begun to gather and actual hostilities were impending. The reduced party were not in a position to bluff so they pulled out by stealth to rejoin Colonel Ma Shen Lung. Traversing most difficult country in appalling weather conditions they moved, first north and then west, through the sources of the Yellow River and their dividing spurs eventually reaching Fort Shan Je Te on the edge of the great Tsendinu swamps. This was China's most westerly outpost and here they found lavish hospitality and even luxury. But they could not dally for word came through from General Ma Pu Fang that the Communists had overrun Nationalist China, and that he was endeavouring to extricate his Moslem forces. Clark had done his work and with his diminished band made his way back to Sining passing close to the Koko Nor, and reported to

General Ma, and also to the very complacent Panchen Lama. The whole odyssey had lasted just six months. It has been vividly narrated, portraying the spirit of rare adventure in happy, some might say exuberant, style. But this is typical, not only of the leader but of the trio of good companions. It would be improved by a glossary, and in their connection a note or two may be allowed. The name Ngolok literally means Face-Back, hence rebel, and a Chorten is not, as stated, a burial place; though it may contain a relic of a saint; shrine or stupa is a better translation. Lastly it should be explained that Chinese Moslems usually bear both Chinese and Mohomedan names. The book is well illustrated and has adequate maps, drawn by Miss Grace James.

H. W. T.

KANGCHENJUNGA CHALLENGE. By PAUL BAUER. *Pp.* 202. 12 *illustrations.* $9\frac{1}{2}'' \times 6\frac{3}{4}''$. *William Kimber, London.* 18s.

Paul Bauer's book, dealing with what may, in fact, turn out to be the second highest summit in the world, appeared at a convenient time, just as the since successful British expedition was under way. For parts two and three are, virtually, revised editions of his previous narratives affording the opportunity of comparing the now politically barred eastern approach with the recently opened up south-western. Except for Farmer's hazardous adventure the latter had not been examined since the tragic Guillarmod-Crowley-Pache attempt in 1905. And the Swiss in 1949 went further north on a more exploratory mission.

Study of the Germans' attempts seems to indicate that their route was the longer and more difficult. Bauer's comments on three approaches are interesting, 'After the experiment (1930 International Expedition), the north-western side had to be written off as impracticable'.—'We had left the west ridge out of account because no one could discern whether it was possible to get on to it. The Swiss Expedition of 1949 was also unable to find any way of climbing the west ridge'.—'In short the north-east spur definitely offers a possibility of reaching the summit; perhaps the only possibility'.—'But it imposes greater burdens on individuals than any other known climb in the Himalaya'.—It should be remembered that they did not carry oxygen.—The crucial steep snow slope which could not be circumvented was, in September 1931, of a suicidal nature, though earlier in the year it might have been surmountable. He remarks that 'at a corresponding season the final slopes of Mont Blanc from the Peteret ridge or

those of the Dent Blanche are, on account of new snow, no longer practicable'.

At the same season, however, fine ascents were made on lower peaks in the Sikkim Himalaya, as witness in part four,—'Triumph on Siniolchu'. Incidentally Siniolchu, 22,600 feet, and Nilkanta, 21,640 feet, may be said to transcend in beauty all other peaks in the Himalaya. On account of the title parts two to four have been dealt with first in this review. But the first part, 'Bavaria and the Caucasus',—in 1928—is delightful though all too short. And it is a pity that politics have prevented him from recounting some of his experiences when he was training and leading mounting troops in the said Caucasus, between 1939 and 1944.

Lastly, the accepted name of the mountain is Kangchenjunga, *kang* being the Tibetan word for snow.

MAN OF EVEREST (Tenzing). By JAMES RAMSAY ULLMAN. *Pp.* 320. $8\frac{1}{2}'' \times 6\frac{1}{2}''$. *G. G. Harrap, London, Toronto, Sydney, and Wellington.* 18s.

This is an interesting and undoubtedly true to life portrait of the great mountaineer. Beginning with a charming description of his earlier homeland,—Solo Khumbu,—and of his own race the narrator, Tenzing, takes his readers to the many regions of High Asia travelled in during the twenty years of his 'second life', as porter and mountain man centred mostly in Darjeeling'. Everest, pre-war, Garhwal, Chitral (in war time), Garhwal again and the western flanks of Kangchenjunga. In an amusing and intimate chapter 'To the Holy Land', he tells of his visit to Lhasa with Professor Tucci—'a strange man whom I grew to like very well'. In accounts of the two post-war Everest expeditions the fullest credit is given to the magnificent achievements of both Swiss and British. The book ends with the beginning of his 'third life', as more or less one of the 'elder brethren' in Darjeeling.

Here and there readers will be inclined to wonder who is actually telling the story—hero, interpreter or writer. For it is not easy to realize how Tenzing has been able, despite having been practically illiterate for many years, been able to marshal so clearly and cleverly his impressions of mountains and men of various nationalities. He has obviously tried to be fair to all and one cannot criticize him for having his preferences.

Mr. Ullman is to be congratulated on having produced, rather under difficulty, a fine book with fine illustrations.

H. W. T.

THE MOUNTAIN WORLD. 1954. *Published by the Swiss Foundation for Alpine Research.* Edited by MARCEL KURZ. *Pp.* 224 *with* 64 *illustrations.*

This excellent annual, now published in four languages, is this year mainly devoted to High Asia. Chevalley and Lambert, John Hunt and Wilfrid Noyce have written on Everest, Ruedi Schatz on Dhaulagiri, Pierre Vitoz on the hitherto virgin Nun, Professor Takagi on Manaslu and Charles Houston on K2. Hermann Buhl's own version of his unparalleled feat on Nanga Parbat is included in an article compiled by Karl Herrligkoffer. A Historical Survey of Nanga Parbat is marred only by misinformed and so unjustifiable criticism of the over-rash British trio in November 1850. The Editor contributes a useful survey—'Himalaya, 1952-53'. In it he rightly observes that 'the Indians are becoming very enterprising and keeping up a heartening pace: Bandar Punch, Trisul and Kamet—What next?' Only one-fifth of this issue was available for climbs and exploration elsewhere than in Asia. Douglas Busk has described exploration in the Ruwenzori group and P. D. Baird has told of the Baffin Island exploration, both in 1953. Swiss participants in the Danish East Greenland expedition under Dr. Lauge Koch have given the story which includes a visit to the most northerly cape in the world, Kap Morris Jessup.

As usual the volume is copiously furnished with excellent illustrations and clear maps. Marcel Kurz and the Schweizerische Stiftung are to be heartily congratulated.

H. W. T.

THE MOUNTAIN WORLD. 1955. Edited by MARCEL KURZ and OTHMAR GURTNER.

Space available does not permit the inclusion of a review adequate to the quality of this latest issue. Once again the bulk of the contents deals with some of the outstanding achievements in High Asia. The Italian success on K2 is told of by the leader and his two summit members. The Cho Oyu epic has been vividly described by Herbert Tichy, and Mathias Rebitsch has given the story of the Austro-German party in the Western Karakoram. George Lowe contributes an account of the Barun Valley expedition, just subsequent to the British Cho Oyu attempt under Shipton. An article by Othmar Gurtner, who is now co-director along with Marcel Kurz, entitled 'Midget Aircraft on Modern Giants', is of unusual interest. And the Preface by Geoffrey Winthrop Young, on 'Courage and Mountain Writing', is, as could

be expected, brilliant. As always, the photographs are really splendid. The new partnership has, indeed, 'gone one better'.

EDITOR.

LAND OF THE SHERPAS. By ELLA MAILLART. *Hodder and Stoughton.* 18*s.*

This is a delightful little book in which the famous traveller-writer tells of her happy visits to the villages and shrines in the foothills of the Great Himalayan Chain, to the north of Khatmandu. In some 40 pages she has vividly portrayed the lives and the customs of the Sherpa and Tamang inhabitants. And she has given us a collection of 77 excellent pictures to depict, in part one 'the High Valleys', and in part two 'Places of Pilgrimage'. The scenes of these are conveniently explained in the list preceding them. That the title of the book, 'Land of the Sherpas', may perhaps be considered by some to be an overstatement in no way detracts from its merits.

EDITOR.

HIMALAYAN BARBARY. By CHRISTOPH VON HAIMENDORF. *John Murray, London. Pp.* 241, 35 *illustrations and* 1 *map.* $9\frac{3}{4}'' \times 5\frac{1}{2}''$. 21*s.*

The scene of this narrative is a portion of the vast hill region which stretches along south of Assam's northern frontier with China and Tibet. It had been for numberless years a 'terra incognita', closed to explorer and anthropologist alike. Though actually, some thirty years prior to the mission here described a semi-military expedition had attempted to penetrate the upper reaches of the Subansiri but turned back, well short of the snow ranges, when armed opposition was met with. In 1944 the Japanese invasion of Burma had brought home to the Government of India the fact that her eastern borders were vulnerable and that the existing vacuum between Assam and Tibet ought to be filled. Government launched a programme of exploration and the distinguished ethnologist, Christoph Von Furer Haimendorf was assigned to the Balipara Frontier Tract. He had to disrupt his work with Gonds in the Deccan and to undertake the task of establishing relations with the unadministered hill tribes, and of exploring the upper Subansiri. A beginning was to be made with the Apa Tanis, who were believed to be less backward than their close neighbours, the Daflas, who were distinctly intransigent. To the east the

Miris, though not troublesome, were also less developed. The politicals intended to provide an armed escort but Von Haimendorf considered that any display of force would be prejudicial to his first contacts with the tribesmen and would jeopardize any chance of establishing mutual trust. After much argument he gained his point and set out not only unescorted but accompanied by his gallant wife, Betty. She had lived for 4 years among aboriginals and both she and her husband were convinced that her presence would help to create confidence.

Owing mainly to the war, equipment of all sorts was almost unobtainable and it came to the point when 'what we did not have we must do without'. However they were provided with an Assamese 'admirable Crichton', who was knowledgeable and influential, and also with a highly efficient interpreter. Range after range of wooded mountains separate the Apa Tani valleys from the plain and the more direct route lay through the country of the Hill Daflas, whose character was painted in the blackest colours. A crowning piece of good fortune was the arrival of three Apa Tanis who had come to make contact with the Politicals (for tribal ends). Like all their fellow tribesmen they wore close fitting bamboo tails, painted a vivid red. Six marches brought the mission to the chief village of Haja where, exercising tact and diplomacy, they made friends—embarrassingly close—with the inhabitants. A house was even put up for them within a matter of hours, for which all payment was refused. It became their main headquarters for their two seasons in the region. But this seemed to intensify the bad feeling between Apa Tanis and Daflas. Kidnapping of men, women and cattle had occurred regularly and also instances of head-hunting. There were, of course, reprisals and also ransoms. Despite all this trade relations between the agricultural Apa Tanis and the cattle breeding Daflas continued. The Von Haimendorfs stayed on for some weeks with the tribe, observing their lives, their economy and their habits. They were especially struck by the industry of the people, who 'had created and maintained an oasis of stability within a world of semi-nomadic improvident tribesmen';—'every gift of nature was bent to the service of man'.

They were anxious to explore further north and before the monsoon compelled a return to the plain they began tentative enquiries with a view to a later visit. It was clear that the co-operation of the Daflas and with it the establishment of more peaceful inter-tribal relations would be a *sine qua non*.

Luckily Dafla envoys came in not long before the mission left and mutual peace overtures began favourably. A touching

farewell marked the end of this first stage. Government then decided to establish a provisional base in the Apa Tani country, with military airports as necessary. This was with a view to extending political control, not only of the foothills but up to the border. The long-term objective was law and order, with the suppression of inter-tribal feuds. In the Autumn, with only a slight show of force relations between Daflas and Apa Tanis were more or less stabilized and reconnaissance higher up the Subansiri could begin. Visits were made to the villages of the Miris and of the clans who maintained trade relations with Tibet. Opportunity was taken of observing the way of life, the religion and the rites of the tribes. There were of course occasional periods of tenseness, and both Von Haimendorfs had some anxious moments. Trade methods between antipathetic clans were interesting. An inhabitant of the village might go to live in some hostile neighbourhood but would remain there, unembarrassed, and he would frequently become the trade agent between the two. The mission did not actually reach the frontier, but the contacts made and the friendships established augured well for a further mission during the winter of 1945-46. But this was not to be, for the Government of India decided to postpone indefinitely further exploration in the area. It seems a pity because there would have been little difficulty in reaching Agla Maira (near Tibet), and even Eru Nime (Far Tibet) where Ludlow and Kingdon Ward had been six years earlier. The author's concluding remark of regret will evoke sympathy,—'even a fraction of the resources spent, year after year, on Himalayan mountaineering ventures would suffice to put these unknown border lands on the ethnographic map and to acquaint us with populations living in complete seclusion from the modern world'.

H. W. T.

TIBETAN MARCHES. By ANDRE MIGOT. *Translated by* PETER FLEMING. *Rupert Hart-Davis, London. Pp.* 268, *with* 40 *illustrations and* 2 *maps.*

This narrative is of world-wide interest being of travel, in intimate conditions, in lands rarely visited by westerners in the past and to which access by citizens of the free world will be barred for unpredictable years to come. Dr. Migot, the holder of an appointment in the 'Assistance Medicale Indo-Chinoise' at Hanoi, was entrusted with a mission of research into various aspects of Buddhism in China and Tibet. Accompanied from Kunming by one porter and shunning all modern means of transport he travelled,

first northward by the old, disused highway to Chengtu and thence westward to Jyekundo, traversing the 'Tibetan Marches' of China. He was in no sort of a hurry because his purpose was to 'get to know the real China'; to soak himself in her civilization, her life, her religion and all her infinite variety. Journeying as he did he came into close contact with all sorts and conditions of men, peasants, merchants, monks, French and other missionaries and officials. Quite early in his venture he realized that it was hopeless to apply for through visas, but that by applying in a provincial capital for a local visa to the next one he could travel the whole length of China. Although often finding himself in the strangest of company he had only two serious set-backs. The first was when stranded in a squalid hamlet an armed band of robbers stripped him of everything in his possession, including shoes, and leaving him only the thin clothes he was wearing. His 'host', the local inn-keeper, was worse off, with nothing but his underclothes. Nevertheless the destitute pair 'took one look at each other and roared with laughter'. Later the Provincial Governor of Sikang (the small buffer province north of Yunnan), whom he met at a banquet shortly afterwards, in Kangting, insisted on making a measure of 'trivial restitution' in money. With the exception of this banditry he received everywhere hospitality and courtesy, and actually dwelt for many days in a mountain-side hermitage with a lama. He had studied Buddhism and had lived with monks in other places and before parting with his teacher he was granted formal entry into the Buddhist church. Shortly after his initiation he crossed the then narrow Yangtse and, once in Jyekundo, succeeded in allaying the suspicions of the Chinese garrison commander by ostensibly making arrangements to accompany a caravan to the Koko Nor, the great 'Blue Sea', some three weeks' march to the north. Thoroughly well disguised as a mendicant lama he slipped away westward along with his staunch companion, Gelu, a young lama from the 'Shangri La' of his own initiation. Thus they started out on the road to their true objective, Lhasa. But seven marches out the 'long arm of the law' reached out to them and they were firmly, though politely sent back, fortunately unescorted. A plausible story of sojourn in lama series was accepted and a few days later Dr. Migot set out in reality for the Koko Nor. From there by way of Sining and Lanchow he reached the railway to Pekin. Here, while visiting the Ming Tombs, he was arrested by Communist troops with whom he spent an instructive month before being passed back to Pekin. Not long after this Dr. Migot journeyed back across China to Eastern Tibet. But 'that is

another story'. As did Heinrich Harrer and Peter Aufschnaiter, Dr. Migot became very fond of the Tibetans. And he is also tolerant of the Chinese Communists, as he found them. He saw 'behind the Communist lines, the young people making a real effort to establish decency and justice'.—'They really wanted desperately to improve conditions, to combat poverty and to restore his dignity to the individual'. The book is well illustrated and has been brilliantly translated by Peter Fleming.

H. W. T.

SOUTH COL. By WILFRID NOYCE. *Heinemann. Pp.* 303, 40 *plates with line drawings and maps.* 21s.

To quote the author: 'There are many books about Mount Everest; some might say too many'. This one unlike most narratives of Himalayan travel gives the 'inside story' of the daily lives of men at high altitudes, of their doings, of their talk and of their reactions to what they see and do.

Wilfrid Noyce has recorded his own thoughts as they came to him from day to day. He takes you from the invitation while he was actually teaching at Charterhouse to the first gathering of the team at the Royal Geographical Society, with John Hunt leading the initial discussion on organization, food, equipment and other countless requirements, 'all as business like as any board meeting'.

Under 'Dramatis Personae' each member of the expedition is introduced, in few words but true to life. Noyce's summing up of his chief's personality deserves reproduction here. 'John fulfilled Gino Watkins' proposition that a leader should be able and prepared to do all that his team must do. He must never be on his dignity with them, nor be above mild ribaldry at his own expense. It is not too much to say that in an expedition of this nature admiration, and even love of the leader is the largest single factor making for happiness, and this team was a more than happy one.'

The journey to Kathmandu, the marches through Nepal and the acclimatization period are enlivened with personal reminiscences, and under the heading 'Icefall Escapades' the struggle to establish Camp III is recounted in similarly light vein. The epic of the Lhotse face, for which the chief honours go to George Lowe, the author and six stout-hearted Sherpas is well told, albeit with some degree of understatement.

The first attainment of the South Col and the arduous, but less dramatic build-up conducted in the main by Noyce and Charles

Wylie is given but scant space. In a series of vignettes the author goes on to tell of the tremendous achievement of Evans and Bourdillon in the 'first assault', when they climbed to the South Summit and, at 28,900 feet, 'stood higher than man had ever stood before'. He tells of the splendid carry by John Hunt and Da Namgyal and lastly of meeting the summit party on their descent; George Lowe hastening up to them and, he quotes Hillary's characteristic first remark to Lowe:—'Well we knocked the bastard off'.

Then comes Ed. Hillary's story as given in his 'first fragmentary account, full of mountaineering understatement': . . . . 'a superb climb by two companions worthy of it and climbing as a rope of two should'. At the end of the book are nine poems written at various stages of the expedition.

The book is superbly illustrated with photographs and with line drawings by A. J. Veilhan in collaboration with the author. The 'end papers' consist of speaking likenesses, also by Veilhan, of seventeen members of the party, including Tom Stobart of cine camera renown and James Morris, the *Times'* correspondent.

Wilfrid Noyce has produced a first class, it may be said necessary supplement to Sir John Hunt's excellent official history of the expedition. He has succeeded in what he set out to do by presenting vividly to the reader the scenes which he himself saw and in which he took part.

H. W. T.

EMPIRE SURVEY REVIEW NO. 98, VOL. XIII, OCTOBER, 1955.

The correspondence columns of the daily press bear witness to the interest evoked by the precise height of Mount Everest. Someone inquires why a climber is only credited with a mere 29,002 ft., when everyone knows the mountain is higher; another assures the editor that he has seen the peak without the aid of any refraction, and why cannot surveyors do the same? Nobody asks what is meant by height; if they did, they would be very surprised to learn of these essentials for an accurate determination: a clear understanding of the distinction between geoidal and spheroidal heights; astronomical data, by which to assess their differences; and vertical angle observations from stations accurately fixed and heighted, and close enough to the peak to limit the unavoidable doubts in assumed refraction.

Mr. Gulatee in Technical Paper No. 4 had already indicated the work that was necessary; and this Technical Paper No. 8 records its completion. He traces the history of the 1849-50 determination of 29,002 ft. from observations at stations in the plains over 110 miles away, and of its recomputation by Colonel S. G. Burrard as 29,141 ft., using new observations from stations somewhat nearer in the Darjeeling hills; a value which the Survey of India have always treated with suspicion, despite its origin, and have never officially accepted. Their reluctance is now vindicated. The problem of refraction values, and the more vital point of geoid-spheroid separation are then discussed in detail; an account of the triangulation work follows, comprising a northward extension in 1952-53 of minor triangulation run in Nepal for post-war control of irrigation projects. A comprehensive astrolabe programme for deviation is recorded, in the course of which a station 30 miles from Mount Everest was found to have a meridional deflection of 71″: a value that will require some amendment of textbooks. Clear diagrams then exhibit the resulting differences of geoidal and spheroidal height.

A final computed value of 29,028 ft. is being adopted, the odds being considered 20 to 1 against this being in error by 10 ft.; it is very fairly pointed out that the comparatively small difference from the old value is not due to the excellence of that determination, but to the fortuitous cancellation of some of the sources of error with which it was burdened.

The paper should be of great interest to all surveyors, not only to those directly concerned with geodesy. Mr. Gulatee is to be congratulated on this clear exposition of the problem, and the Survey of India on its satisfactory and well-timed solution. The recent success on Kangchenjunga will bring up once more the question of its height relative to K2; Mr. Gulatee has this matter in mind too, and records that their difference in height is less than its possible error. A preliminary computation suggests that Kangchenjunga is undervalued by about 60 ft., and we await with interest his final conclusion.

C. A. BIDDLE.

K2: THE SAVAGE MOUNTAIN. By CHARLES HOUSTON and ROBERT BATES. *Collins*. 25*s*.

K2 is the world's second highest mountain. Yet it is a curious fact that until it was climbed last year by a powerful Italian Expedition its name, its location—let alone its history—almost escaped

public notice. How many times have I been asked by people, thinking in terms of its closest rivals in height, 'after Everest, what next?' Except for Everest the details of high mountains are familiar only to geographers and the few who are closely interested in mountaineering.

During and after the Everest Expedition in 1953, public attention was focused on our struggle to reach the highest point on the earth's surface, and the fact that nearly 1,000 miles away in the far Karakoram a serious attempt was also being made to climb a mountain less than 1,000 ft. lower than Everest was generally overlooked. There is, moreover, the fact that despite a most gallant effort the Americans failed to reach the top of K2 in 1953, which in itself did not provide headlines to satisfy those who measure great enterprises by the yardstick of material success. And this is a pity, for the story of Houston's expedition, as a few of us knew at that time and as is now made clear to everyone in this book, is that of a great enterprise.

As in the case of Everest, the story of K2 cannot be truly assessed merely by the final, triumphant episode, achieved and recorded by the fine Italian mountaineers in 1954. This must be related to all that had gone before: a British party made the first attempt more than fifty years ago: Italian guides under the Duke of the Abbruzzi tried again in 1909, and these were followed, after a long interval, by the three American expeditions of 1938, 1939 and 1953. That the mountain was climbed at last was due to the union, not the conflict, of human endeavour; each attempt, taken separately, was an upward step towards the ultimate goal. Charles Houston and his men took the penultimate step and, in so doing, gained further hard experience which increased the chances of their successors. Their part in this epic was a triumph, even though they did not reach the summit.

Whether it is considered as a chapter of a greater history, or, out of the context of the past, simply as an adventure story, this book makes enthralling reading. Yet there is no doubt that some background knowledge of the history of Himalayan climbing, and of K2 in particular, enhances the interest of the tale, for history has an awkward habit of repeating itself: on K2 in 1953 two tragic episodes from the past were dramatically reproduced, though differently re-enacted. Nineteen years before, in 1934, a German Expedition assembled its full climbing strength on the Silver Saddle of Nanga Parbat, at over 24,000 feet and within striking distance of the summit of that ill-famed peak. There they were struck and besieged by a sudden and violent storm until, forced to retreat, four of them lost

their lives during a fearful struggle for existence on the perilous way down.

The second episode occurred on K2 itself in 1939, when the second American Expedition was making its attempt on the summit. At Camp VII, at 24,500 feet, one of the assault party fell desperately ill and his two companions descended to seek help from the lower camps. But no help was found, for these camps had been evacuated in tragic error by the rest of the party. This circumstance cost the life of the sick man and of two Sherpas who gallantly climbed up from the Base Camp in an attempt to bring him down.

With these dramas in mind, it is natural to ask whether climbing can still be regarded as a sport when related to the conquest of the few highest peaks of all; it is possible to criticize the heroes of K2, in 1953, both in regard to their planning and their management. Rightly or wrongly, Houston and his men were determined that their venture, even on such a peak as K2, should be conducted on the plane of sport and not as a campaign waged by pygmies against a giant supported by elemental forces. Despite the lesson of Nanga Parbat, they concentrated all eight members of their team at Camp VIII, 25,500 feet, with no support in any of the seven camps below them, spaced empty at intervals down the 9,000 feet of steep south ridge. But the Furies are neither appreciative of the sporting spirit nor lenient to human error, and these eight men found themselves, like the Germans, trapped at that great height for ten appalling days of storm, and gradually succumbing to the effects of cold, lack of oxygen and nourishment. Moreover, as in 1939, one of their number fell dangerously ill and it became clear that he would be quite unable to climb down.

Yet the outcome was different from those events of 1934 and 1939, and in the sad yet glorious dénouement lies the true merit of the story. When the time came to make a supreme effort for survival these men, dangerously weak themselves and with a helpless companion on their hands, were quite clear that they would stay together, knowing full well that such unison would probably spell their doom. Faced with the apparently impossible task of descending through the continuing storm down those 9,000 feet of difficult and dangerous mountainside, they yet took with them the dying man, wrapped in his sleeping-bag and a tent, lowering him gently, foot by foot, down the steep snow slopes.

At one point, a slip by one climber sent all but two of the party—the sick man and one other—sliding helplessly at gathering speed downwards; they were miraculously arrested at the brink of disaster. Then their sick comrade was swiftly and mercifully removed from

them in circumstances which seem to have been little short of providential; for this alone made possible their escape.

Such tenacious courage, such unity in adversity, earned them a return to life, and they came back to tell a most moving tale. As befits its greatness, it is told in easy, unsensational style by three members of the party, while others have shared in compiling the brief appendices. There is a gratifying absence of technicalities, tedious to those not directly concerned with the climbing and scientific problems involved in such an enterprise. Such facts and figures as are given reveal the modest scale and simple concept of the expedition. It was privately financed and the resources budgeted for by Houston were not large—indeed the reserves of men and material may not have been adequate.

However this may be, we can afford to admire the more these men from America, with all the resources which might have been placed at their disposal, for insisting on this note of modesty and simplicity, for holding high the banner of sport and for ignoring the issue of national prestige attached to so glittering a prize as the first ascent of K2.

SIR JOHN HUNT.

NANGA PARBAT. By DR. KARL HERRLIGKOFFER. *Elek Books Ltd., London. Pp.* 254, 8 *colour plates,* 55 *monochrome plates,* 5 *sketch maps and diagrams.* 9″ × 5½″. 25*s.*

This is a mountaineering epic of unusual interest, of attempts, several ill-fated, to scale what was until 1954 the highest peak ever ascended by man.

In Book One, 'Tragedies,' the period covered is from 1895, the year of Mummery's rash venture, down to the 'Winter Escapade' of 1950. It has been ably and impartially dealt with by Mrs. Eleanor Brockett and Anton Ehrenzweig—translators of the German version—and concludes with a 'Summing Up' by Erwin Schneider, Nanga Parbat veteran of 1932.

Book Two, 'Triumph,' is Dr. Herrligkoffer's official record of the Willi Merkl Memorial Expedition of 1953. He writes dramatically of the alternating progress and frustrations and of the ultimate attainment of the objective striven for for so long and at such great cost of life. Aschenbrenner of Kufstein takes up the story and describes the build-up to Camp IV, close under the Rakhiot Peak at 22,000 feet. Another Austrian, Frauenberger, after shepherding the Hunza porters up the Rakhiot ice-wall, tried to establish Camp V at 23,000 feet, but was forced down to a site at 22,600. The oxygen had to be left at Camp IV.

On June 30 word came through from base camp to those on the mountain that the monsoon had arrived and that the high camps were to be evacuated forthwith. However, the weather had cleared above and it was decided to face the great risks involved and launch the assault. The fullest credit is given to Hermann Buhl of Innsbruck who, unaccompanied, climbed over 4,000 feet in seventeen hours and with almost superhuman determination and powers of endurance reached the summit a few minutes before the sun went down. Without oxygen, without food or drink, inadequately clad, without sleeping-bag or shelter, he spent seven hours of darkness at over 26,000 feet. At early dawn, both feet frostbitten, he resumed the arduous descent, limping down to the Diamir depression, up again to the Silver Saddle and, finally, twenty-eight hours after starting up, staggered into the arms of his comrades close to the Moor's Head. But for the unexpectedly long spell of fair weather, which mercifully lasted until base camp was reached, the Naked Goddess must have again taken toll in lives of men.

It will be noticed that no Sherpas took part in the ascent, although the Himalayan Club had, with some difficulty, enrolled, routed and despatched a team to railhead at Abbotabad. The arrangements made for the outward journey through Azad Kashmir to Gilgit broke down and after a long wait the stranded men were recalled to Darjeeling. The Hunzas, expert cragsmen, but with inadequate experience as yet on snow and ice, seem to have done well, and Herrligkoffer, while deploring the non-arrival of the Sherpas, expressed the opinion that, 'the conquest of Nanga Parbat with Hunza porters was just within the limits of possibility,' which proved to be the case. He has also gratefully acknowledged the unfailing cooperation and support given throughout Pakistan by officials and others alike.

An appendix by Eleanor Brockett and Anton Ehrenzweig, 'The Hunza Porters,' in which the Hunzas and their neighbours across the valley are well and fairly described, is a valuable addition to this very interesting and well-produced book. It is well provided with illustrations, colour and monochrome, and has adequate sketch-maps and diagrams.

H. W. T.

TIBETAN JOURNEY. By G. N. PATTERSON. *Faber and Faber. Pp.* 231. *Illustrated.* 15*s.*

This is a very interesting book of Tibetan travel by a man who spoke Tibetan and thus avoided the tiresome use of an interpreter.

The author, a medical missionary working on the Tibet-China border, had to hurry to India to bring supplies of drugs and other necessities in view of the approach of the Chinese Communists which endangered the supply of such things from China. The journey was undertaken from January to March 1950 in a Tibetan winter, and the hardships of such conditions are described with much genuine feeling. Probably there could have been mitigation to some extent by travelling at night over frozen snow on the worst parts, and also by taking precautions against snow-blindness.

After a gruesome, and quite unnecessary, account of an operation on a Tibetan woman, we are taken off on the journey to India. Unfortunately we are given no clue as to the starting-point except a note on the map. There is also no indication of where we are going until on the third day out (on p. 52) we learn that the author spends the night at a village (tantalizingly nameless) on a rocky promontory above the Yangtse river. The next day the Yangtse is crossed in coracles. The location of this ferry is not given. Up to Gartok, which he reached in seven days, he was on little-known ground, though the country is mapped. Here he spent several days and made a very useful friendship with the Tibetan officer Dege Sey (Derge Se, by the recognized transliteration from Tibetan), who spoke good English which he had learnt at Ludlows' school at Gyantse. He also obtained a permit to travel and the right to *ulag*—that is, transport, supplies and accommodation. From Gartok the author was on the track of A. K., one of the most efficient of the secret explorers who were sent out by the Survey of India last century. This took him to Mijiriga (Michi Rika), at which place he picked up the tracks of other travellers. His journey through the Mishmi country was facilitated by the Indian detachments on that frontier. Here he met Captain and Mrs. Kingdon-Ward, who were on one of their many botanical explorations. No one will like reading of the high-handed methods of his escort in beating villagers and head-men to make them produce transport. It is better to control these matters, particularly if you intend to return by the same road.

There is perhaps too much detail of the conversation of his retainers. This in moderation is interesting as showing aspects of Tibetan life. More information of the country traversed and especially some place names would have added to the interest, and to the value of the book for future travellers. The author had the good sense to take a respectable suit of clothes for meetings with high officials. Many travellers cut their baggage down to such an extent that this is not possible and unintentionally give offence in this respect.

This remarkable journey was started in an emergency at short notice, and under these circumstances it was due to his knowledge of the language and his determination that he got through to India.

F. M. B.

AN INNOCENT ON EVEREST. By RALPH IZZARD. *Hodder and Stoughton, London.* 1954. *Pp.* 256. *Ill. Bibl.* 16*s.*

Any good reporter would have jumped for joy at being assigned to cover the 1953 Everest Expedition. But Ralph Izzard can have had but few illusions as to the difficulties of his task. It was perhaps the most thankless and unsatisfactory mission ever imposed on a newspaper man. Nevertheless, starting from scratch, at very short notice he managed to reach Khatmandu, travelling by pure coincidence in the same plane from Delhi as the leader. The terms of *The Times* copyright naturally prohibited the imparting of inside information, but John Hunt remained, as always, scrupulously courteous but firm. And, as was only to be expected, little journalistic help was forthcoming from British officialdom at the capital. From Tenzing he got help, advice and useful copy (not of course relevant to the current expedition). The British Ambassador had been adamant about *The Times* copyright—an attitude of which Mr. Izzard could not see the ethics. He seems to ignore the fact that when contributing the major part of the funds required to launch the expedition *The Times* acquired the sole press rights from expedition sources for a stated period. Officials of the Nepal Durbar, being unhampered, could be, and were, very helpful. From rival reporters and other channels he obtained a good deal of relevant copy, not always strictly accurate. But in Khatmandu camp equipment was unobtainable, while in Calcutta he found even the Himalayan Club cupboard bare. It took an ill-spared week to scrounge the kit, and when inspecting it he 'felt more like a clown than a climber.' However, he set off with his harum-scarum gang only a week behind the expedition and got to Namchi Bazar in only a fortnight, by good fortune stumbling on to the expedition's headquarters just below the ice-fall. He had done extremely well thus getting to the head of the Khumbu Glacier at all, and more so just as the expedition was about to pass out of sight beyond the reach of gate-crashers. Two of these were trying to do better than the *Daily Mail* man. And two other correspondents, of reputable papers, got no farther than New Delhi. Although Ralph Izzard never got a chance of obtaining any sensational copy, he has written his story of frustration with

praiseworthy restraint and has produced a very readable chronicle. He waited for three weeks more in Khatmandu and witnessed the outburst of wild and rivalling nationalism which marred, for a period, the tremendous success of the expedition. His analysis of the causes shows understanding and a degree of sympathy and he has dealt tactfully and factually with the two Tenzing controversies. The book is well illustrated.

H. W. T.

A MOUNTAIN CALLED NUN KUN. By BERNARD PIERRE. *Hodder and Stoughton, London. Pp.* 89, 20 *pictures*, 5 *maps and sketches.* $8\frac{1}{2}'' \times 5\frac{1}{2}''$. 16*s*.

It was a happy coincidence that in 1953 both John Hunt and his friend Bernard Pierre should be leading successful expeditions at opposite ends of the Himalaya. But it seems strange that Nun, the second highest peak in Kashmir, only 60 miles from Srinagar, should have remained inviolate for so many years. And it is interesting that only one of the team had had previous Himalayan experience. And also that of the two who reached the summit one, Mme Claude Kogan, became thereby the woman's altitude record holder. The other was the Swiss Protestant Pastor from Leh, who left his flock with the message, 'The Pastor has gone to the presence of the Most High.' Bernard Pierre's vivid narration of the course of events, his intimate portrayal of those taking part and his picturing of the wonderful setting are all brilliant. The avalanche, which brought two of his party to the brink of death, the wiping out of Camp III, his esteem of their Sherpas and his own unhappy renunciation from the final assault are all told of with typically Gallic freedom from inhibition. To quote Sir John Hunt, 'an intensely human story'. The translation, by Nea Morin and Janet Adam-Smith, leaves nothing to be desired.

H. W. T.

ABODE OF SNOW. By KENNETH MASON. *Rupert Hart-Davis.* 25*s*.

A special note concerning this very fine work by the recent head of the School of Geography at Oxford appears earlier in this issue. And so many well deserved encomiums have been bestowed by better qualified judges that to vie with them in these columns would be redundant. But the following from a review by Sir John Hunt has been quoted as an example of what has been said . . . '. . . there is

no doubt that *Abode of Snow*, with its full index, accurate descriptions and plentiful sketch maps, will be a valuable book of reference to the geographer, the historian and to the mountaineer-explorer. To those whose interest in these mountains is more general it will serve as a useful background to the great adventure stories which are fresh in men's minds and to the deeds which will be enacted there in future.'

EDITOR.

ROAD TO RAKAPOSHI. By GEORGE BAND. *Hodder and Stoughton, London. Pp.* 192, 50 *illustrations*, 4 *maps and diagrams.* $8\frac{1}{2}'' \times 6\frac{1}{2}''$. 16*s*.

This account of the doings of six members of the Cambridge University Mountaineering Club makes excellent reading. The road to their objective in the Western Karakoram took them right across Europe and half across Asia. Their plans were perforce based on the period of the Long Vacation, so the first half of the party drove out in May-June in their Bedford 'Dormobile', leaving the others to follow by air, after sitting for their June examinations. Food and equipment went conveniently by sea. Ted Wrangham has contributed a pleasant description of the outroad journey, telling of many happy encounters and of the almost universal help afforded by British and other officials.

Rakaposhi—(the 'Dragon's Tail')—some 25,560 feet in height, had previously been tackled unsuccessfully by two smaller parties. The Cambridge team was stronger and better equipped, though far from the lavish scale of the big Italian expedition to K2, a few weeks earlier.

George Band takes up the story from the arrival in Rawalpindi, a few days ahead of schedule. Just before leaving England they had been staggered by the news that an Austro-German party had been given permission to attempt, not only Rakaposhi but also Dastaghil 25,870 feet, in the Hispar Mustagh. Fortunately these potential rivals decided, after reconnoitring, to try further north, in the Batura, where there were other virgin 'eight thousanders'. Another piece of great luck came them in the person of General Hayaud Din ('Gunga' to his host of friends). He was then Chief of the Pakistan General Staff and decided to accompany the Cambridge party as liaison officer.

Their attempts followed much the same lines as those taken by their predecessors—first the north-west ridge and then the south-west spur. Their setbacks were very similar, though they did, in fact,

open the way to the summit by a 'first ascent' of the Monk's Head. But they were in no fit state to exploit this success and contenting themselves with this achievement made their way down to base camp—the first stage of the long journey home. George Band ingenuously admits that even seven thousand miles were not enough to teach him to drive, and that after two failures to do so he has not yet passed his test, 'the hazards of a busy shopping street are greater than those in the Himalaya.'—An example of the happy style which runs through this book. The maps and diagrams are excellent, but the photographs are hardly up to standard.

H. W. T.

HIGH ADVENTURE. By EDMUND HILLARY. *Pp.* 224, *with maps by* A. SPARK *and sketches by* GEORGE DJURKUOIC. *Hodder and Stoughton, London.* 1955. 16*s.*

This is not 'just another book about Everest'. The author explains in his preface that it is simply a personal record of his own part in various expeditions, of which the successful effort of 1953 is a fitting climax.

I think most people will enjoy the development from venturesome and sometimes reckless youth to the calculated and responsible acceptance of risks in the Himalaya; all in a period of seven years.

Three things have left an indelible impression on my mind: first, the conclusion arrived at in the terrible ice-fall of the Khumbu glacier, that 'the only way to attempt Everest was to modify the old standards of justifiable risk and to meet the dangers as they came; to drive through regardless . . . the competitive standards of Alpine mountaineering were coming to the Himalayas, and we might as well compete or pull out'.

Second, still in the ice-fall: 'an enormous tilting serac, but we estimated that, even if it did fall, it shouldn't give the inhabitants of the camp anything more than a bad fright'. This is the optimistic fatalism of very brave men.

Third, the almost incredible powers of mental concentration shown by the author on the final ridge of Everest above the South Col. Without this, he and Tenzing might have reached the summit, but they would not have got down alive.

Hillary writes well, and is generous in his tributes to all his companions; and he does not forget his debt to his great friend, Shipton.

The photographs, maps and sketches are excellent.

HUGH RUTTLEDGE.

As we go to press another classic, superbly got up, has come to hand. It is entitled 'Les Alpinistes Celebres', published by Lucien Mazenod of Paris who specializes in 'Editions d'Art'. This very brief note is all we can give at this eleventh hour, but a full review will be printed in Volume XX of the Journal. The work has been compiled by Henry de Segogne, lately President of the Club Alpin Francais, and Jean Couzy. Some three score mountaineers have contributed, including 14 British. A number of older prints have been skilfully reproduced, as well as many old portraits, modern groups and some of the finest mountain photographs extant.

H. W. T.

HIMALAYAN CLUB

CLUB PROCEEDINGS AND NOTES, 1954-1955

The Twenty-sixth Annual General Meeting of the Himalayan Club was held at the Little Theatre, Lighthouse Cinema, Calcutta, on Monday, the 5th July, 1954, at 6-45 p.m. The retiring President, Mr. C. E. J. Crawford, took the chair.

In a short speech, the Chairman outlined the aims and objects of the Club and remarked that the Club's activities had expanded to a great extent. Mention was made of the greatly increased interest in Himalayan climbing since the ascent of Everest and of the record number of expeditions from abroad visiting the Himalayas this year. At the conclusion of his address the Chairman wished the Club and its new President continued success and expressed his thanks to the Committee for the support which they had given him during his term of office as President.

The Minutes of the Twenty-fifth Annual General Meeting held in Calcutta on 29th May, 1953, were confirmed. The Annual Report and Audited Accounts for the year ended 31st December, 1953, copies of which had been circulated by post to all members, were confirmed and approved. Messrs. Price, Waterhouse, Peat & Co., Ltd., were reappointed auditors for the year ending 31st December, 1954. Officers, Elective Members of Committee, and Additional Members of the Balloting Committee were duly elected as follows:—

Officers

President ..	.. J. Latimer, Esq.
Vice-Presidents	.. Lt.-Col. H. W. Tobin
	C. E. J. Crawford, Esq.
Honorary Treasurer	.. J. T. Ewing, Esq.
Honorary Secretary	.. T. H. Braham, Esq.
Honorary Editor	.. Lt.-Col. H. W. Tobin.

Honorary Local Secretaries

Delhi ..	.. R. E. Hotz, Esq.
Darjeeling ..	.. Mrs. J. Henderson
Bombay ..	.. A. R. Leyden, Esq.
Kulu ..	.. H. M. Banon, Esq.
Dehra Dun ..	.. Gurdial Singh, Esq.
Karachi ..	.. Major F. P. A. Goodwin
United Kingdom	.. Lt.-Col. H. W. Tobin.

Elective Members of Committee

Dr. K. Biswas
S. E. Golledge, Esq.
R. E. Hotz, Esq.
A. R. Leyden, Esq.
J. A. Steven, Esq.
V. S. Risoe, Esq.
J. O. Sims, Esq.
Major-Gen. H. Williams, C.B.E.

Other Appointments

Honorary Librarian	..	V. S. Risoe, Esq.
Honorary Equipment Officers		W. R. Henley, Esq.
		M. H. Mehta, Esq.

Additional Members of Balloting Committee

W. B. Bakewell, Esq.
J. T. M. Gibson, Esq.
J. N. Mathur, Esq.
B. R. Jennings, Esq.
Brig. C. R. Mangat Rai
T. D. Welby, Esq.

The Annual General Meeting was followed by a talk given by Dr. William Siri, leader of the Californian Expedition to Makalu, which had just returned to Calcutta. This was followed by a showing of the French Annapurna film. The meeting was attended by about 40 members and wives.

The most important achievement during the year 1954 was the ascent of K2, 28,250 ft., by an Italian team under the leadership of Prof. Ardito Desio. Another important ascent was that of Cho Oyu, 26,867 ft., by an Austrian team under Dr. Herbert Tichy. We congratulate the Sherpa Pasang Dawa who was a member of the summit party. The year was a very active one generally, and the occurrence of some fatalities in the mountains is greatly regretted. Notably the deaths of three Italian climbers on the expedition to Api, and the death through frostbite of Lt. Ibanez, leader of the Argentine expedition to Dhaulagiri.

Club News-letters have continued to appear, giving details of main expeditions to the Himalayas, and recording the activities of the Club in all its Sections. The Himalayan Mountaineering Institute

was officially opened in Darjeeling by the Prime Minister of India in November 1954 with Major N. D. Jayal as Director and Tenzing Norkhay as Chief Instructor. The Instructors, all of whom attended a course at the Swiss Mountain School in Rosenlaui during July/September 1954, are Angtharkay, Gyalzen, Da Namgyal, Ang Temba, Nawang Gompu and Nawang Topkie. The Institute has been running regular mountain courses, combining theoretical instruction with practical training. We wish the Institute every success for the future.

An enjoyable dinner was held in Calcutta on the 19th January, 1955, which was attended by a large gathering totalling 86 members and guests. Prof. G. I. Finch, F.R.S., gave a talk of great interest on 'The effect on Man of high altitudes' and showed some slides of the 1922 Expedition to Mt. Everest. Mr. T. H. Braham followed with a talk on the 1954 Reconnaissance of Kangchenjunga, after which Dr. D. S. Matthews showed a coloured cine-film of this expedition.

The year 1955 has again been a very active one in the Himalayas and, indeed, another year of notable climbs. Kangchenjunga, 28,168 ft., the world's third highest mountain, was climbed by a British party under Charles Evans. Fulfilling a promise made to the Sikkimese before starting, the climbers left untrodden the last five feet of the mountain's summit. The ascent was made by two pairs of climbers, George Band and Joe Brown on 25th May; Norman Hardie and Tony Streather on 26th May. Thus the ascent of Everest in 1953 has been followed closely by that of K2 in 1954 and of Kangchenjunga in 1955. The other main achievement of the year was the ascent of Makalu I, 27,790 ft., by a strong French team, led by M. Jean Franco. Some members of this party had carried out a reconnaissance of the mountain in the autumn of 1954 in the course of which Makalu II, 25,130 ft., was climbed. A unique feature of the splendid achievement of the French this year was the fact that all eight members of the climbing team and one Sherpa Gyalzen Norbu climbed to the summit in three separate parties of three, on 15th, 16th and 17th May. Surely, a record on a major Himalayan peak.

The second ascent of Kamet, 25,447 ft., was made this year on 6th July by an Indian party led by Major N. D. Jayal. On the same day other members of this team made the third ascent of Ibi Gamin, 24,120 ft. A very fine effort indeed; and a noteworthy example of the great strides forward which mountaineering has taken in India. Details of the very numerous expeditions that have visited the Himalayas and adjoining ranges in 1955 for the purpose of climbing and exploration have appeared in our news-letters. Mention should be made of the British ladies party of three, the first ever of its kind

we believe, which carried out a successful expedition to the Langtang Himal in Nepal and climbed a peak of about 22,000 ft. The lust for mountain adventure appears to have maintained its post-Everest increase and with the unlimited scope offered by these vast areas of mountains, we hope that it may continue to do so. Political difficulties still provide a barrier to access to some of the most beautiful regions, but we hope that it is not unreasonable to assume that some relaxation will be granted to *bona fide* expeditions in the not too distant future.

The Twenty-seventh Annual General Meeting of the Himalayan Club was held at the Little Theatre, Lighthouse Cinema, Calcutta, on Wednesday, the 22nd June, 1955, at 6-45 p.m. The President, Mr. J. Latimer, took the chair.

The Minutes of the Twenty-sixth Annual General Meeting held in Calcutta on 5th July, 1954, were confirmed. The Annual Report and Audited Accounts for the year ended 31st December, 1954, copies of which had been circulated by post to all members, were confirmed and approved. Messrs. Price, Waterhouse, Peat & Co., Ltd., were reappointed auditors for the year ending 31st December, 1955. Officers, Elective Members of Committee and Additional Members of the Balloting Committee were duly elected as follows:—

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Karachi ..	.. Major F. P. A. Goodwin
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Elective Members of Committee

Dr. K. Biswas
P. F. Cumberlege, Esq.
R. E. Hotz, Esq.
Major N. D. Jayal
A. R. Leyden, Esq.
A. B. Marshall, Esq.
V. S. Risoe, Esq.
Major-Gen. H. Williams, C.B.E.

Additional Members of Balloting Committee

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Other Appointments

Honorary Librarian	..	V. S. Risoe, Esq.
Honorary Equipment Officer		P. F. Cumberlege, Esq.

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