THE CLIMBING OF THE MUZTAGH TOWER

By J. M. HARTOG

THE MOUNTAIN—INTRODUCTORY

The Muztagh Tower was discovered and so named by Martin Conway in August 1892, in course of the first expedition to explore the upper portion of the Baltoro Glacier. He described it as 'the finest mountain of this district, second only to the unsurpassable Matterhorn for majesty of form.' [1] He adds that its extremely precipitous appearance from the upper reaches of the Baltoro glacier is deceptive; that it is a thin but wide peak, whose South-west arête appears quite accessible. 'It is the peak we ought to have climbed, for its position is superb.'

General C. G. Bruce, then a subaltern, was accompanying Conway as liaison and transport officer. Bruce had been to Zermatt and he described the Tower as 'built on the lines of the Matterhorn, but infinitely more grand.' [2]

Sir Francis Younghusband had crossed the Muztagh Pass in 1887, and though he may have seen the Tower, he did not remark on its unusual appearance. Conway named the mountain on account of its proximity to the pass, but the wisdom of his nomenclature has been questioned by Desio and G. O. Dyhrenfurth.

In Turki (the language of Turkestan), Muz means 'ice' and Tagh means 'mountain.' One of Dyhrenfurth's principal objections[3] was that the Tower is primarily a rocky ridge. In this he is not entirely correct, since the whole of the North face from the cornices at the crest of the ridges to the valley glaciers below is covered by ice and hanging glaciers.

After Conway, the next visitor to the area was Ferber, who ascended to the south side of the Muztagh Pass and made a little map of the area,[4] introducing the name Black Tooth for a peak south-east of the Tower.

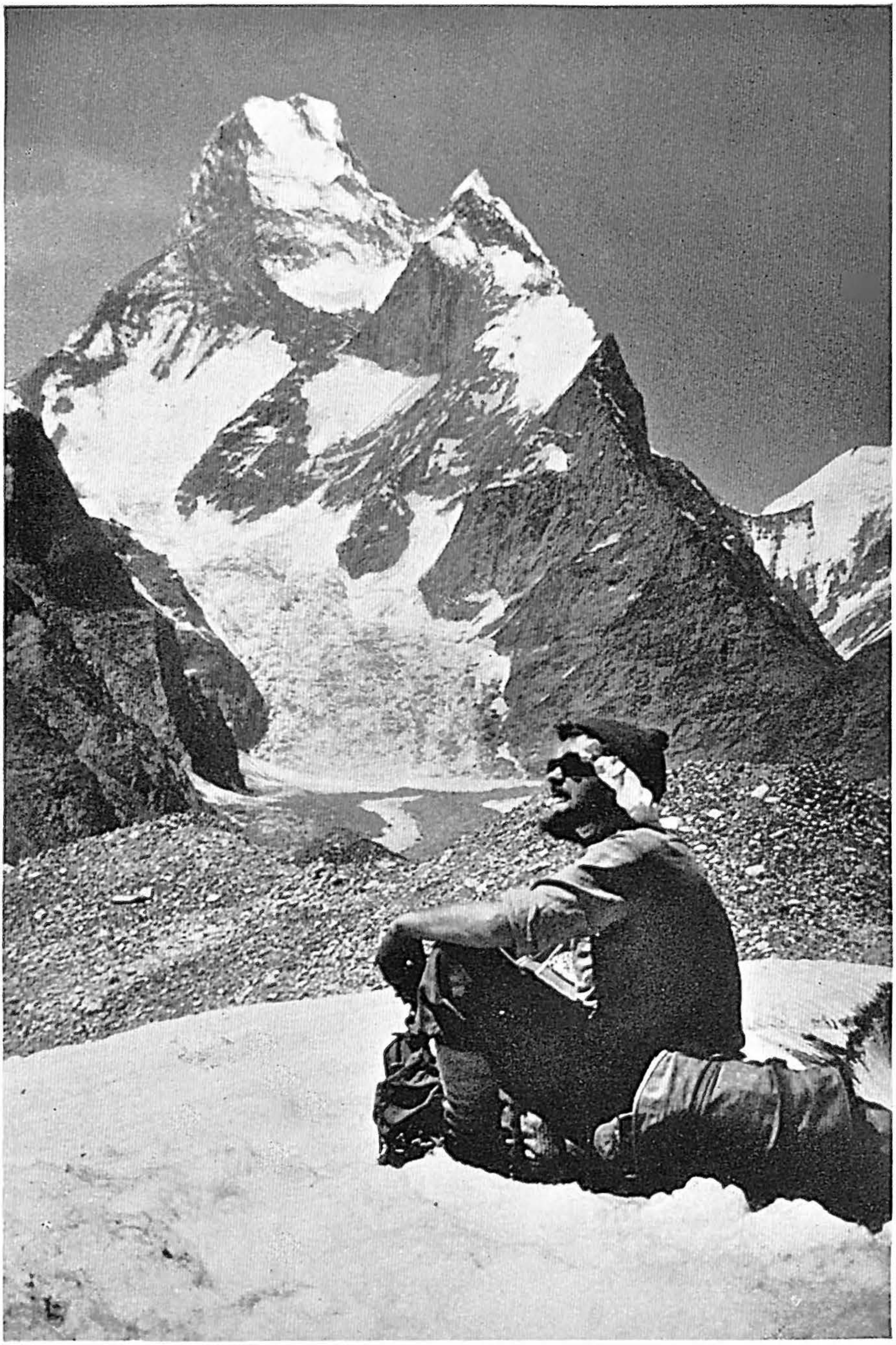
It was the publication of Sella's famous telephotograph, taken on the first scientific expedition to follow up Conway's early exploration, that gave the Muztagh Tower its world-wide reputation. The Duke of

[1] W. M. Conway, *Climbing and Exploration in the Karakoram-Himalayas*, 1894, London, p. 525. Conway and the early explorers spelt Mustagh with an 's'; the Survey of India and most modern authorities prefer a 'z'; see e.g., Kenneth Mason's article 'Karakoram Nomenclature,' *H.J.* 10. 86–125.

[2] C. G. Bruce, *Twenty years in the Himalaya*, 1910, London, p. 179.

[3] G. O. Dyhrenfurth, *Baltoro*, 1939, Basel, p. 66.

[4] A. C. F. Ferber, *Geographical Journal*, 1907, vol. 30, pp. 630–43.



Photo, J. Brown]

MUZTAGH TOWER FROM THE SOUTH-EAST.
(MCNAUGHT-DAVIS SITTING ON THE SALTORO GLACIER.)

[*To face p.* 252.

the Abruzzi, in 1909, took a party to the Karakorum Himalaya to map, photograph, explore and climb. He had with him as official photographer Signor Vittorio Sella, whose best pictures are still the acme of mountaineering photography.

The official account[5] talks of the strangest conceivable apparition of a mountain, so singular in its form that it is not to be compared to any other known peak. 'It appears, and perhaps is, a true monolith, a rocky mass of a single formation—without traces of breaks or divisional planes—no other of any comparable size is known to exist on the globe.'

Thus was born the legend of the unclimbable mountain. The telephotograph mentioned was not the only photo of the Tower taken by Sella on this expedition, and it was not the only one published in 1912. There is another which shows the South face, and most of the North-west and South-east arêtes,[6] but which is so unlike the symmetrical form in the telephoto, that at first sight it is difficult to relate the two views, taken from directions approximately at right angles.

The next major expedition up the Baltoro was also Italian, led by the Duke of the Abruzzi's nephew, the Duke of Spoleto. In 1929 this expedition, under the scientific direction of Ardito Desio, had a base camp for six months at Urdokas on the Baltoro Glacier, quite close to the Muztagh Tower.

Anyone wishing to climb in the Baltoro region, or in the basins of the Panmah, Sarpo Laggo or Upper Shaksgam, is well advised to consult the monumental geographical results of this expedition, which are contained in an enormous quarto volume of over 600 pages, with thirty-four plates, 253 textual illustrations, eight panoramas and four maps.[7] Every mountain and every glacier in the area is described. There are sketch-maps of every mountain group and suggested routes up all the major unclimbed peaks.

Desio has been up the Baltoro on three different occasions and must be considered the leading authority on the area. His own interests are primarily geological, though he has shown himself much in sympathy

[5] F. di Filippi, *Karakoram and Western Himalaya, 1909*, 1912, London, pp. 298–9.

[6] F. di Filippi, *op. cit.*, p. 198.

[7] Duke of Spoleto and A. Desio, *La Spedizione Geografica Italiana al Karakoram 1929*, 1936, Milan-Rome. This work is in the A.C. Library. At the time of publication it received inadequate recognition in Britain as none of the reviewers appears to have been able to read Italian. Its 1/75,000 map of the Baltoro is by far the best existing map of the area it covers, although inaccurate in some minor details. Much of the map is constructed from photogrammetric survey, and these parts are, of course, correct. Parts which are not accurately surveyed are appropriately indicated by broken contour lines, and are mostly the dead ground invisible to the surveyors.

with pure mountaineers. His colleagues and he in 1929 established the height of the Tower as 7,273 m. (23,860 ft.), and also the essentials of its structure, which is much as originally described by Conway. A sketch-map and several photographs of the Tower from different angles are given in the published results, together with comments on routes up the mountain. There is only one point, a small one, on which Desio seems to have been misled, and that is due to one of the mountain's characteristics: the extraordinary difference in its appearance from different angles.

From the junction of the Baltoro and Younghusband Glaciers the Tower appears to have a subsidiary peak on the South-east ridge.[8] This may have been the 'Black Tooth' of Ferber; Desio called it the *Punta Bassa del Mustagh* and measured its height as 6,719 m. Although from some viewpoints this lower point is very prominent, from others its true nature becomes apparent. It is merely where the ridge changes in angle; to the north-west of it is a level slope of snow, leading, after a gap, to a rather higher minor eminence on the same ridge.

After the ascent of K2 by Compagnoni and Lacedelli in 1954, Desio, accompanied by his petrologist, ascended the Younghusband Glacier to the Moni La, and found it an easier way to reach the Sarpo Laggo than the Muztagh Pass which he had crossed in 1929. On this trip he was able to ascertain that the Muztagh Tower has virtually no North ridge.[9]

Finally, reference must be made to two works by authors who have not been able to study the mountain closely. Professor G. O. Dyhrenfurth suggests that the extraordinary morphology of the Tower is explained by there having been vertical faults in a north-east, south-westerly direction on either side of the mountain, which accounts for the disappearance of the once adjacent rocks, and the mountain's present isolated situation.

R. L. G. Irving published in 1935 a picture of the Muztagh Tower[10] over the caption 'Nature's Last Stronghold' and states that it is 'probably the most inaccessible of all great peaks, for its immense precipices show no weakness in its defences.'

The first attempts on the Muztagh Tower were made in 1956, by a British party up the North-west ridge and by a French party up the South-east ridge. In both cases all the climbing members of the expeditions (four from each) reached the summit.

[8] For a fine telephotograph of this, see Spoleto and Desio, *op. cit.*, Plate XV (opposite p. 300).

[9] Professor A. Desio, private communication.

[10] R. L. G. Irving, *Romance of Mountaineering*, 1935, London, Plate 11 and p. 319.

THE BRITISH BALTORO EXPEDITION, 1956

I was fourteen when I first read *The Romance of Mountaineering* at Westminster, and about six months later discovered how different were Conway's remarks about the Muztagh Tower. From then on this peak had a place 'on my list,' and this ambition was shared with another boy, D. S. Brock, who has since given up such apparently impossible schemes.

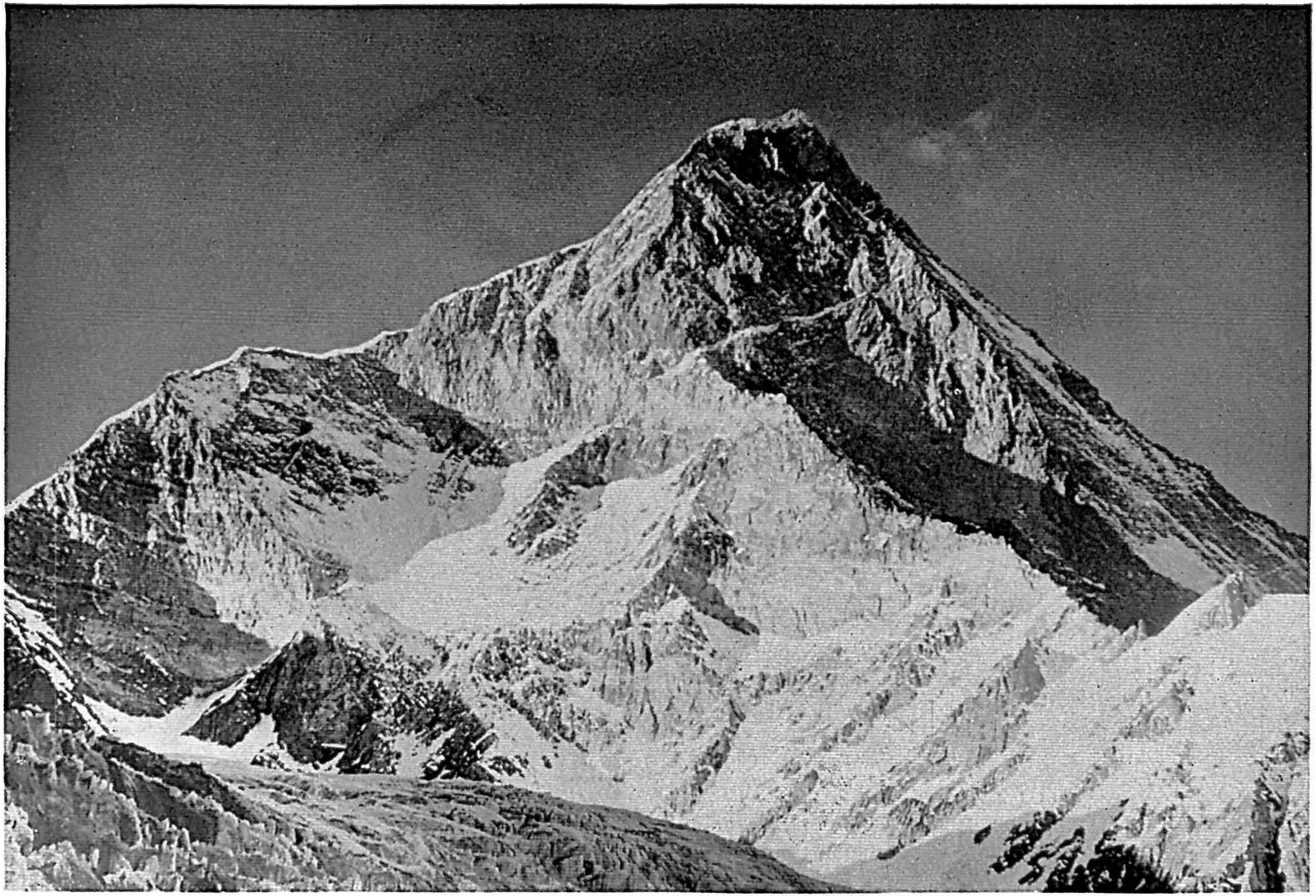
The opportunity to climb in the Baltoro only arrived twenty years later, and when it became clear over New Year, 1955, that the visit might be achieved in the summer of 1956, my closest climbing companions and others who might be able to go were approached. For most of my generation it is not easy to get three months' leave, and to raise the necessary financial contribution. But in May, Ian McNaught-Davis, then in East Africa, agreed by letter to join me, to share the leadership and the financial responsibility. We applied for political permission to the Government of Pakistan the same month, and, as Mac was abroad, I started planning, researching, discussing, and eventually ordering essential equipment which could not be obtained at short notice.

The other two members of the party, Joe Brown and Tom Patey, only joined up in March, less than three weeks before our ship sailed. Mac had returned home in February. The Monday before Easter we started shopping, asking for all our stores to be delivered before the bank holiday. This technique is only possible with extensive use of the telephone and some experience of who sells what. Fortunately two previous expeditions had taught me something, and picking my friends' brains and having their advice was an enormous help. Sainsbury's provided most of the food, and some experimental dehydrated meat and vegetable came from the Ministry of Agriculture and Fisheries food factory at Aberdeen.

After four days of telephoning and rushing round London, we settled down over Easter weekend to pack our high-altitude rations in cardboard cartons. Much of the food had to be grocer-weighed into small bags, and the corridor was chocked with boxes. In this work we received notable assistance from Miles Rucklidge, Eric Plumpton and Miss M. Briscoe, who gave up their bank holiday to help us.

On the Wednesday after Easter all the stores were assembled at Benjamin Edgington's Sidcup works, and twenty-four hours later they were aboard our ship at Liverpool.

At the end of April we arrived in Rawalpindi and were joined there by Captain Riaz Mohammad of the Pakistan Engineers, who was our



Photo, J. M. Hartog]

MUZTAGH TOWER FROM THE SOUTH-WEST. THE FRENCH EXPEDITION ASCENDED BY THE RIGHT-HAND RIDGE; THE BRITISH BY THE LEFT-HAND RIDGE. CAMP IV WAS ON THE ARÊTE ABOVE THE LARGE ROCK TRIANGLE AT THE LEFT OF THE PICTURE. THE 'RESSAUT' IS THE ASCENT OF THIS TRIANGLE.

liaison officer. Here, as in Karachi, the kindness and friendship of our contacts were incredible and enabled us to get through our many tasks with a minimum of trouble and delay.

Both we and all our gear had to be flown to Skardu, past Nanga Parbat and up the Indus Gorge. This is one of the most exciting flights in the world, and among the unattempted peaks we had an excellent view of Haramosh (24,470 ft.), surely a suitable objective for some small expedition in the near future.

Skardu is the headquarters of the Political Agent for Baltistan; it has a post office, a hospital, and communication with the outside world. Here we purchased food and recruited porters. Here, too, we were to be joined by four Hunza men who were being flown across from Gilgit to act as our high-altitude porters.

From Skardu it is eleven days' march to Urdokas on the Baltoro Glacier where we had our base depot. On arrival we had to dismiss our Hunza porters, who showed themselves unwilling to start carrying loads—they had only carried their personal kit so far—and we replaced them by six of the most likely looking of our Balti low-altitude porters recruited at Skardu. These Baltis, carefully selected, lacked nothing in keenness, were sound mountaineers and carried well up to 18,000 ft. This was the altitude limit for three of them; the other three were going well up to 20,000 ft., above which we did not attempt to take them.

PLAN OF CAMPAIGN

From a study of the literature, maps and photographs, we had a fair idea of the mountain, but it was only when Professor Desio gave me two aerial photographs taken in the course of his flight to reconnoitre K2, that I was able to reconcile the different ground photos and grasp the mountain's true form.

The mountain has two main ridges, each leading to a summit. The two summits are nearly the same height, and in between there is a col, probably less than 100 ft. lower. The distance between the highest points is under 400 yards.

The South face of the mountain is divided in its lower half by the South ridge, which drops steeply at first and then runs level for a mile or more. Beneath the west half of the South face lies the upper basin of a tributary to the Chagaran Glacier. Beneath the east half of the South face lies a hanging glacier, and below this again the upper basin of a tributary to the Younghusband Glacier.

The west half of the face is rocky, and holds very little snow, in some places being too steep, in others vertical or overhanging. It is 4,000 to 5,000 ft. high, about twice the height of the eastern half, which is mixed rock and ice, but holds fresh snow that avalanches off to feed

the hanging glacier below. During our stay we saw avalanches sweep this face, and also right down the North face which drops to the Moni Glacier.

To the north-north-east of the summit is the Moni La (*ca.* 6,000 m.), by which the Younghusband Glacier connects with the Moni Glacier. The North face itself is crusted with snow and ice, very steep, 6,000 to 8,000 ft. high. The few patches of rock visible are low vertical cliffs below a hanging glacier.

The ridges are all long. The North-west ridge drops steeply to the West col, but continues thereafter in the same direction over a subsidiary ice dome (over 20,000 ft.) about two miles from the summit and thence out of sight. The South-east ridge is rather less steep in the gradient of its crest, but is just as steep as the North-east ridge in the angle of the sides of the ridge. As often in Himalayan mountaineering, getting up the sides of a ridge onto its crest presents a major difficulty.

The South ridge has been briefly mentioned already—it is obviously not the route for a first attack on the mountain.

Our plan, given to the Government of Pakistan in September 1955, was to ascend the Chagaran Glacier and thence the North-west ridge.

As an alternative, should this fail, there was the South-east ridge, much longer but distinctly less steep in its upper part. We would have to approach this alternative ridge from a base camp on the Younghusband Glacier, which would mean a longer carry for our porters and therefore more expense.

We saw no advantages in going to the Younghusband Glacier initially, so after sacking the Hunza porters we established base camp on the Muztagh Glacier on May 28 at an altitude of 4,285 m. (14,055 ft.).

From now on all four of us and Riaz would work hard, reconnoitring the way and carrying loads.

A critical factor would be the weather, and we followed the helpful advice of Colonel M. Ata-Ullah, who had been to K2 with both the American and Italian expeditions of 1953 and 1954. Consequently we expected only a few fine days in each month and planned to sit out storms at every camp. To some extent it would be siege tactics.

Most of our equipment was fairly standard for small high-climbing Himalayan parties. We had, however, planned to bring 2,000 ft. of fixed rope, with pitons and karabiners. At the last minute, on Joe's suggestion, we got some 9-in. channel ice-pegs. These were to come in very useful. Oxygen was not taken.

Our object was to reach the summit in the last week of June or first week of July, and all our dates, including departure from England, were worked back from that.

ESTABLISHMENT OF CAMPS I, II AND III

Without deliberate intention, a routine developed for establishing camps: first would be a two-man recce, carrying loads which would be dumped in the early afternoon, not having found a suitable site. Next time all four of us with the four porters would take up more loads and find a site. By then the fine weather had come to an end, so we descended to base camp (to avoid eating the high-altitude rations carried up at such effort) and proceeded to get rather cross until the weather cleared up. Then back up the mountain, more cheerfully.

As we had two porters acting as watchmen over our base depot at Urdokas, there were only four porters to carry the higher camps; in order to save time the rest of us all took loads as well.

No one had ever been up the Chagaran Glacier, so it was here that our exploration proper started. Mac and I carried out the first recce, turning the impossible icefall at the bottom by rather unstable morainic material on the north side. Eventually we made a sort of track up the dust and rubble which bordered the ice. Higher up, the ice rested on a steep ramp of holdless slabs, the smoothest I have ever seen. So we were forced to work our way up the séracs, but it was not too difficult since the general gradient of the glacier was less than lower down.

Camp I was placed on the flat tops of two adjacent séracs, each about 12 ft. wide, at a height of 4,835 m. In between the séracs were crevasses about 18 in. wide. This portion of the glacier formed a whaleback, and we knew the site chiefly for the perpetual noises that came from under the tent floor. Sometimes these were only cracks and groanings, but every so often there was a fearful shudder, as if presaging disaster. However, it seemed that short of an unlikely major catastrophic movement of the whole glacier, all that could happen was that one sérac would close up to the next, and the tents would be left safely on the top.

Nevertheless, no one really enjoyed the disturbed nights at Camp I, least of all the porters.

The route up to the col at the foot of the Tower's North-west arête was not immediately clear from Camp I, and we had not so far had a view of the col (which I shall call the West Col). Our first recce only landed us in an impossible icefall, but at the second attempt Tom and I found an easy way up over snow-covered glacier to a site for Camp II,

and also beyond this to a full view of the route to Camp III, which we proposed to place on the West Col. Going up the Chagaran Glacier, we had taken to its eastern branch which led to a large and fairly level basin below the South face of the Tower, which now dominated the head of the valley. It reminded me of the triangular West face of the Weisshorn, but it was much steeper and more imposing, the summit being 9,000 ft. up in the air.

Constitutionally I go uphill very slowly, while Tom goes very fast (aged twenty-four, he was always the most rapid mover of the party); so we unroped above the crevasses, and Tom went up to the foot of the slope leading to the col.

We had no loads on up here, and it was pleasant to be able to enjoy one's surroundings. For both of us it was the greatest height we had reached (5,540 m.).

These recces and the going up and down with loads had another function—that of providing acclimatization. The only altitude effect we really noticed was breathlessness, and on this first occasion, before I had worked out a deep-breathing technique, I was rather puffed. The day was June 2.

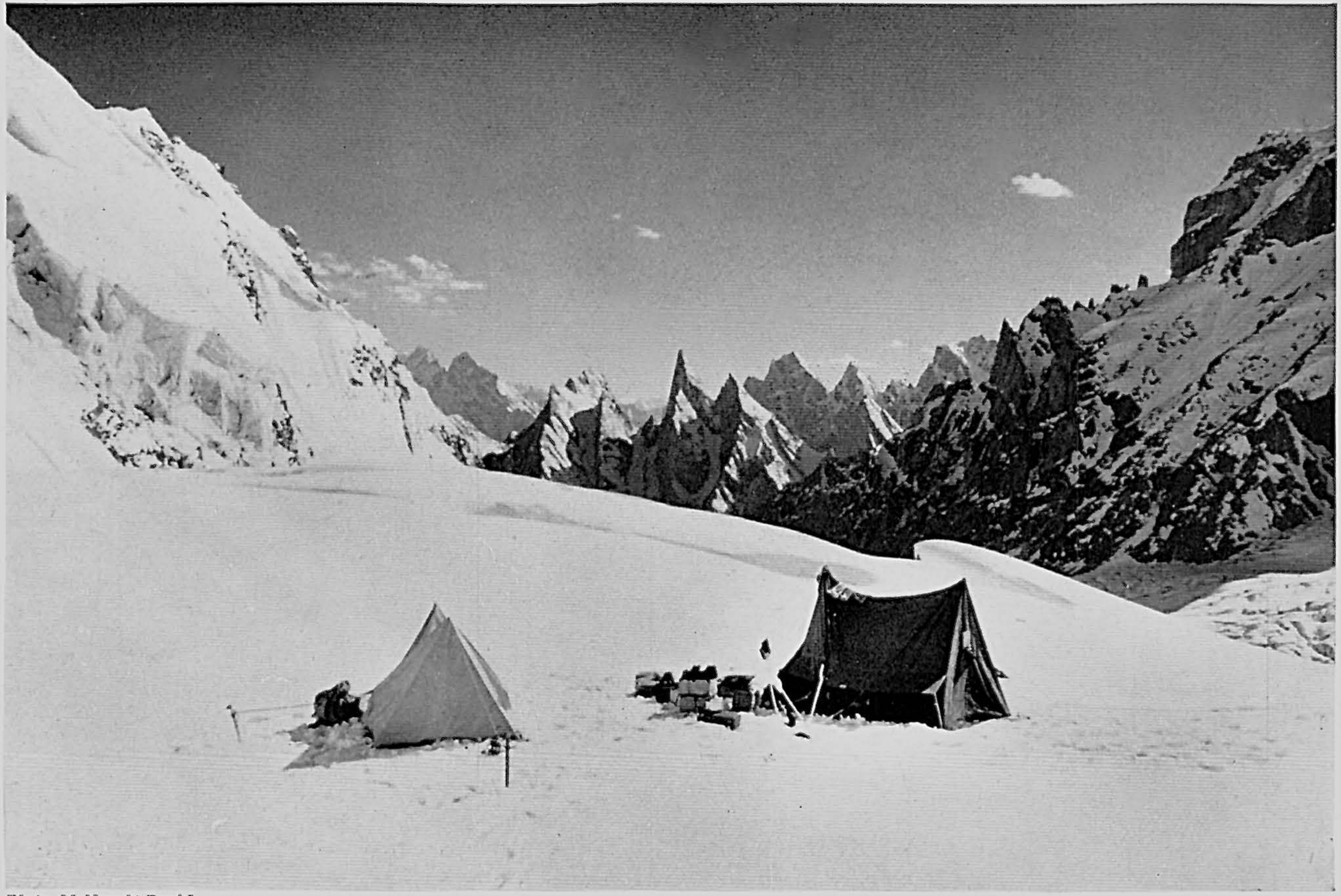
On June 3, Joe, Mac and I carried up a first load for Camp II, while the porters ferried up at lower levels—but the weather deteriorated, and by next morning the barometer appeared to have fallen 4.5 mm. So we went down to base camp for a period of blizzard and boredom.

Apart from reading and writing, other amusements were boulder-trundling, going for walks down to Urdokas and up towards the Muztagh Pass, where we were surprised by the good condition of some of the deserted houses of Chagaran, a village on this ancient trade-route.

Two peaks west of the Muztagh Glacier were climbed, one by Joe and Tom, the other by Joe, Mac and Tom. In both cases the route started up a 3,000-ft. snow-filled couloir, a dreadful slog, but perhaps worth it for the ten-minute glissade down! From the top of the couloir to the summits was excellent rock.

On June 13 we were up again to Camp I, and on the 14th established Camp II. On the 15th Joe and I had hoped to reach the West Col, but we were defeated. From Camp II there was an easy two-mile slog up snow to the foot of the ice slope leading to the col. This is about 1,200 ft. high and has an overall angle of 40 degrees (measured by Abney Level). We started up happily, realising that the angle eased off half-way up. It was in keeping with the mountain that such 'easy' slopes often turned out to be much steeper when one was on them.

[To face p. 260.



Photo, McNaught-Davis]

CAMP II. IN THE BACKGROUND ARE PEAKS ON THE WEST SIDE OF THE MUZTAGH GLACIER, TWO OF WHICH WERE CLIMBED BY MEMBERS OF THE EXPEDITION.

When the altimeter read 6,050 m. we had stopped, below the upper ice-slope, which was too steep to be comfortable without security. A thin layer of névé was lying on top of hard glassy ice. There was no question of getting porters up without a fixed rope. Most of our rope was still at base camp or Urdokas because we had not yet realized that the Tower was going to be a difficult climb.

Next day we all set out, with the porters. Mac and Tom led off with 300 ft. of fixed rope (all we had at Camp II), while Joe and I were beasts of burden. About 200 ft. above our highest point of the day before we made a dump. Mac and Tom climbed on, and reached the col. They were impressed by what they saw, and this was a turning point in our whole attitude towards the mountain.

Back in England there had been a suspicion that the North-west ridge would be a snow plod. Now we knew that it might be too hard for us.

Morale went up enormously. Everyone had something to get their teeth into. It seemed to me the route was possible but hard. Joe already is saying that it will probably be *his* hardest climb. To me this means the most exposed and dangerous route he's been on. My acquaintance with the vertical is less than Joe's. The following day, June 17, the weather broke and we had to go down once more.

On arrival at base camp on June 18 I was handed a letter from Guido Magnone, leader of the French expedition to the Karakorum, 1956, informing us that they too were planning the Tower, and had intended to set up their base camp on the Chagaran Glacier. Instead they would now go to the Younghusband Glacier. We were all very depressed by the news, and our only consolation was that they would be unable to do much during the current snowfall.

This depression wore off after we'd despatched a reply to Magnone, and received a batch of mail from home, but the weather continued bad, and on June 26 G. Magnone, Paul Keller and Captain Usman Ali arrived to pay us a visit.

After rather formal conversation for five minutes, we settled down inside the tent for a good gossip about climbing in general and Baltoro problems in particular. We had tea, biscuits and butter, honey, cheese, and cake.

After the initial stiffness, we found we were jolly glad to see the French, and much enjoyed having them with us. At this time they were very depressed by the weather and by what they had seen of the mountain, but they gave us a cordial invitation to return their visit and left us two tins of fruit juice.

It goes without saying that they were neatly dressed and clean-shaven. We, of course, were very scruffy and would all have been in our sleeping-bags had not Joe, forced outside into the falling sleet,

spotted our visitors plodding up the glacier below. I just had time to pull on some clothes and boots before greeting them.

Two days later we were up the mountain again, and started building up Camp III on the col. We had first to equip the route with fixed rope, and just over 1,000 ft. was in position before the first loads were taken up. At the top of the ice-slope was a cliff, partaking of the general character of the South face—i.e. plastered with snow and ice, very steep, with vertical walls and a number of overhangs. This cliff was penetrated by an 80-ft. chimney which gave straight on to the West Col. Below the chimney a traverse of a few hundred feet along the base of the cliff led to the fixed ropes hanging down the ice-slope. These ropes were fixed every 50 ft. or so into the rock or ice (by 9-in. pegs), and all were tied together, end to end.

Camp III had a wonderful situation on a flat stretch of ice about the size of a tennis-court. Here, between the rocks of the ridge and the cornice, melting had taken place, and water was always available three inches below the surface of the ice tennis-court. The height was 6,180 m. (just over 20,000 ft.).

The ridge from here upwards was impressively steep, and it was clear the difficulties we had already had were only a foretaste of what was to come.

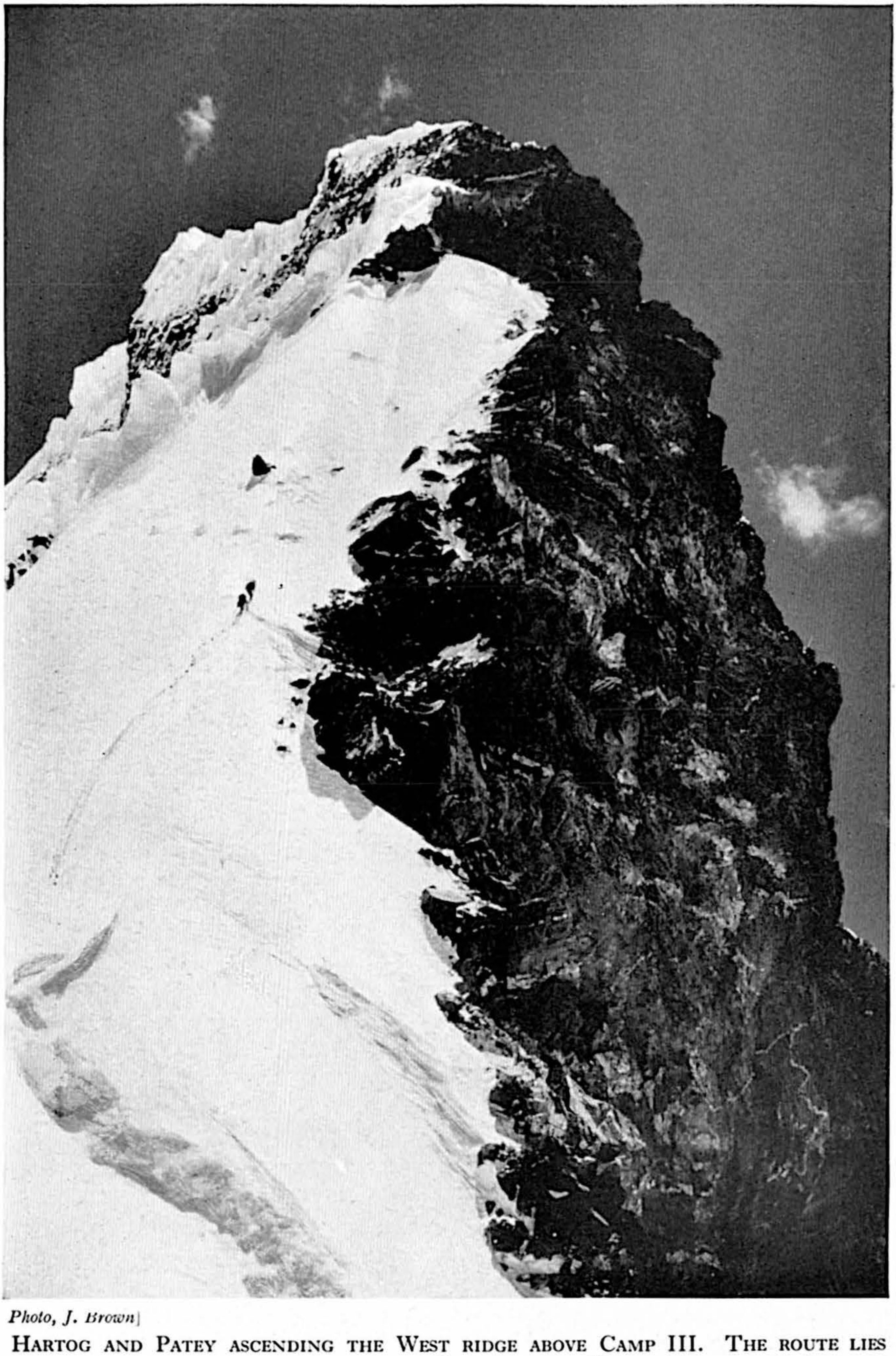
Tom had described to me the first ascent of one 12-ft. pitch below Camp III as V.S. (*very severe*). Once the ropes were fixed, everyone, including the porters, trusted them implicitly. Crampons were essential on the ice.

BID FOR THE SUMMIT—CAMP IV AND THE TOPS

Mac and I started up to recce towards Camp IV on July 1, and discovered that the ridge, at first sight impossibly steep, should 'go.' The others and porters were all now engaged on building up the sixty man-days' stock of food and fuel at Camp III, as this was our last outpost for the siege, and it was from here that we would mount the assault.

The next 1,000 ft. was continuously hard, and we again had to equip it with fixed ropes. On the morrow Joe and Tom led off, while Mac and I carried loads intended for Camp IV, but by 4.30 P.M. it was clear that we were not high enough, so once more loads were dumped.

This time we were on the North-west ridge proper. Above Camp III a fairly level corniced section soon gave way to steep snow and ice. This lasted for 350 ft. and then turned to mixed rocks and ice. From now on exposure was very great. On the right, the South face dropped away without anything to stop a falling body or load, before levelling out on the glacier below. We climbed overlooking the South face. On



Photo, J. Brown]

HARTOG AND PATEY ASCENDING THE WEST RIDGE ABOVE CAMP III. THE ROUTE LIES ON THE EDGE OF THE ROCKS OF THE SOUTH FACE. FROM THE UPPER SKYLINE AN ABSEIL WAS MADE.

Photo, J. Brown]

McNaught-Davis on the steep and dangerous snow above Camp IV.

the left were the upper snows and ice of the North face which finished in a cornice.

The ridge itself was not a knife-edge here, but quite 30 yards wide, and the reason for keeping towards the South face edge was to have the benefit of the rocks, in which we could excavate holds and could secure the fixed rope with pitons. The ice alternative was steeper, slower going (steps would be required), and less safe.

We intended to place Camp IV on a level section of ridge we had spotted from lower down, above the *ressaut* which is so impressive from Camp III.

The effort had tired us all, but partly this exhaustion must have been due to lack of food, for we suddenly realized that the last three days our intake of solid food had been only 12 oz. per head per day while our ration was about 36 oz.

Next day the porters arrived unaccompanied from Camp II, at 9 A.M. when we were all still abed. The weather was not yet fine enough to justify our bid for the summit, though we were now equipped and provisioned for it. A rumour that Riaz had pneumonia at Camp II sent Tom scurrying down to investigate.

On July 5 Mac and Joe set off to establish Camp IV and make their summit bid the day after.

I find it difficult to give any adequate description of this next part of the climb. This is partly because it was a first ascent, and descriptions of first ascents are notorious for giving inaccurate impressions, and partly because each one of our party had different impressions of where the major difficulties lay. Certainly, without the security of a fixed rope it would have been unjustifiable to ascend that ridge. A 45-lb. load throws one sufficiently off-balance for a slight error to lead to disaster. Quite apart from that, descent in a storm would have been impossible without the fixed rope. I do not propose to enter here into a discussion of the techniques employed but merely to state that in our view the methods we employed did not detract in any way from our enjoyment or achievement; that the French used exactly similar methods on their side of the mountain; and to reiterate that without such safeguards the climb would not have been justifiable and perhaps not possible.

The individual moves, on rock ledges, across icy couloirs, unstable snow slopes, a rock chimney, an *à cheval* across a chockstone wedged across the top of an ice-gully, were far more frightening to me the first time up than a second time, either up or down.

Higher up, above the top fixed rope, the ridge was blocked by a vertical cliff which stretched right across; above this, the ridge became flatter. Joe turned the cliff by a corner, traversing onto the South face, and then going horizontally on ground rather similar to that by which

one traverses below the Grand Gendarme on the North ridge of the Weisshorn. The actual corner, which had a groove in it, one had to step across, with a downward view of 4,000 ft. between one's legs.

For descending this section Joe threw a 240-ft. nylon medium line down the cliff, which we used as a fixed abseil rope (single strand).

As Mac and Joe had now picked up the full equipment for Camp IV, this section, except for the lead across the corner, was climbed with sacks weighing about 50 lb. Protection was provided by piton-belays, above and below.

Camp IV was erected on the very crest of the ridge a few hundred feet further up. Here the crest was ice for about three feet, and the first summit party cut this down, and then built out a platform of rocks on the same level to give a horizontal foundation for the Black's two-man tent.

The following night Tom and I arrived, and I had the sleeping-bag on the outside. By chance looking to see if something had slipped underneath my Lilo, I found I was looking through a large rent in the groundsheet right down the South face.

From Camp IV to the summit the trail was broken by Mac and Joe, who both described it as the hardest day's work they had ever done in their lives. They got to the West summit at 6.30 P.M., and after visiting the col between the summits they went back down the ridge 300 ft. to bivouac for the night.

Next day, July 7, Tom and I followed up the footsteps of the first rope. After a start on mixed rock and ice we embarked on a long snow-and-ice section leading up with increasing steepness to the first of two rocky bands coming in from the South face and extending half-way across the ridge. The first of these ' slopes ' Joe tried to ' peg ' up, as it turned out to be overhanging. As the pegs would not hold, it was necessary to traverse underneath and up a couloir at the side, thus turning the excessively steep rocks. The couloir was filled with loose snow, about three feet deep, lying non-adherently on ice. Above it, forming the opposite wall to the rocks, were ice-cliffs and séracs. Below there was no obstacle to a rapid descent to the Moni Glacier, 6,000 ft. below.

The labour of getting up this was extreme, and the avalanche danger was always there. The second day the steps had consolidated somewhat, and though care was necessary the danger was much lessened.

But for Mac and Joe it was hair-raising, a breast-high treadmill arrangement of exhausting character, on which the steps were made in zigzag pattern looking for the soundest snow. The snow couloir was

Photo, J. M. Hartog]

THE EAST SUMMIT OF THE MUZTAGH TOWER; K2 BEHIND. THE COL BETWEEN THE SUMMITS IS VISIBLE. THE HIGHER ROCK LEAF GAVE 10 FEET OF SEVERE CLIMBING.

about 250 ft. in vertical height before it opened out into a wide slope of bare ice for about 200 ft., leading to the base of some rocks. Two rope-lengths (Grade III) took one to the start of an easier section from which one climbed continuously up snow at an easier angle, until there was a steep rise of 90 ft. Breasting it, the ground dropped sharply at one's feet. It was the West summit—a narrow ridge, perhaps 350 yards long, with the highest point towards the south. The East summit appears from the west to be a little pinnacle of snow, very dainty, with a 10-ft. rock step near the base. In reality it is a knife-edge ridge of snow, the narrowest that I have ever been on, and across this ran a vertical wall of rock, mentioned just above. Although the East summit looked to be the higher one, Mac and Joe just couldn't summon up the energy to tackle it. Of course, it was getting late and they would have to bivouac out as it was. So they descended about 300 feet below the West summit to a hollow between the rocky top of the South face and the snows of the North face. Mac had always had the idea that a bivouac might be necessary on this section and the two of them were fairly well prepared for it, except that they were short of food and, of course, drink. (They had no stove.) For this top section there was a great question of how much weight it was necessary to carry.

Anyhow, they didn't have too bad a night, and actually slept a little. Joe didn't take his boots off. Early next morning they started down, hungry and thirsty, and we met them at 9.30 on the snow/ice slopes of the North face. We compared notes with them and learnt all about their doings. They offered us some of the special extra down clothing that we had for bivouacs, but as from their timetable of the previous day we discovered that we had already made up three hours we decided that we ought to be able to get back to Camp IV without a bivouac. They were frankly sceptical, but Tom and I felt that if we could manage without carrying any further loads we should go all the faster. So after a quarter of an hour's halt we separated, they to go down to Camp III, and we up to the top. We arrived on the West summit at 2.30 P.M. (four hours earlier than the first pair, entirely due to being able to use Mac's and Joe's steps). Tom got up ten minutes before I did, and was shouting down to the French when I arrived.

The French camp (it was their IV) was in the middle of the hanging glacier, 2,000 ft. below. We could see one little dot just by their tent, and two more above the bergschrund, on a snow/ice slope leading up to a gap in the South-east ridge. Vague shouts, quite unintelligible, were coming up from below, and Tom was yelling back. We saw the two figures on the slope descend rapidly and return to their camp. The previous night Joe and Mac had seen their camp, too, and called down

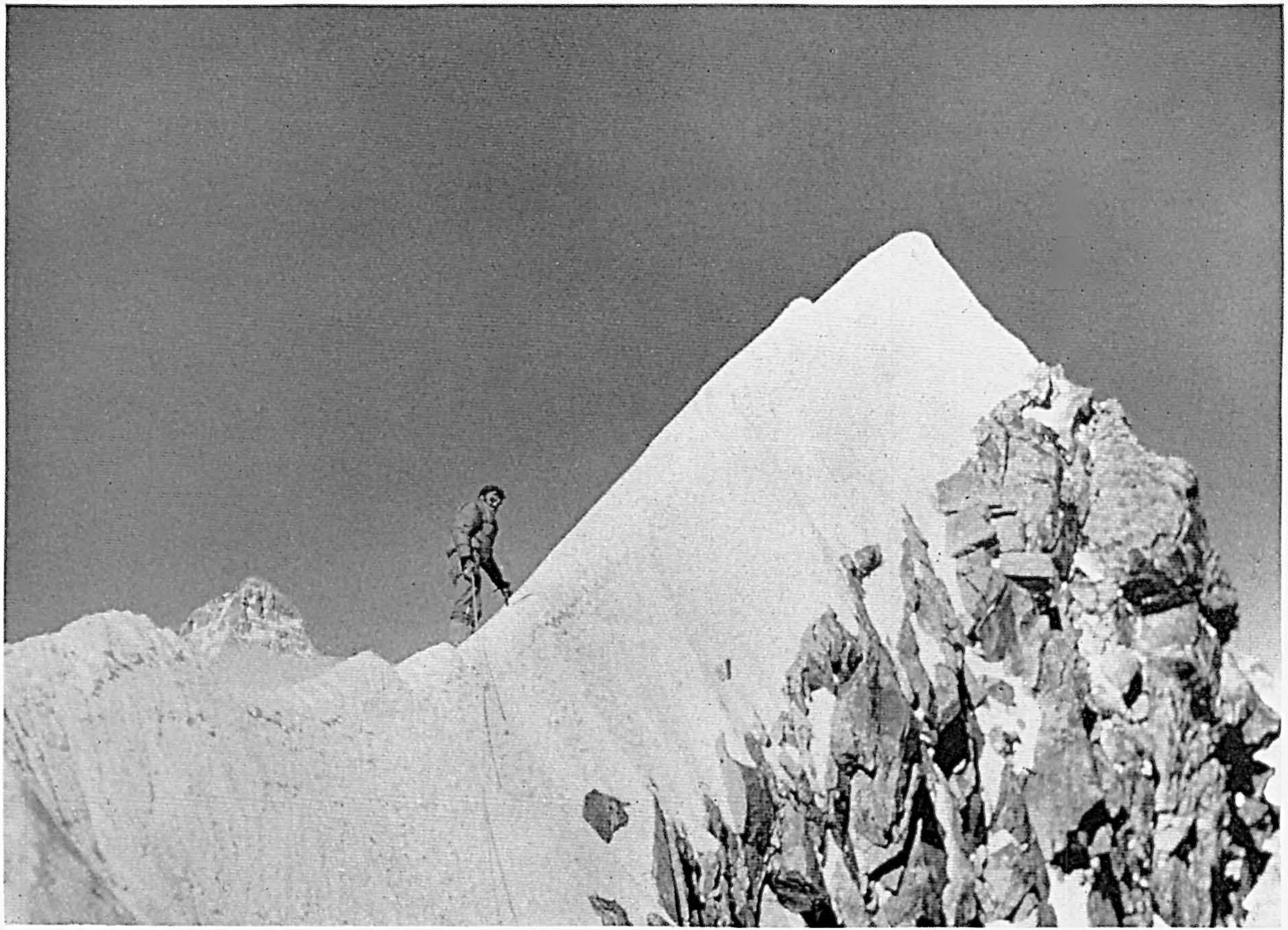
to them, but, as we learnt later, the French were all in their tent, playing bridge.

At the West peak Tom and I roped up again and set off for the East summit. Mac and Joe thought this looked higher and had taken on a bet about how much higher it was.

I have told of the appearance of the East summit as seen from the West top, and now Tom and I went up to the foot of the rock step, Tom leading, and I belayed only to an ice axe buried to the top in the snow of the arête. On either side this fell away in the great slopes of the North and South faces. To the south the exposure was only 2,000 ft., but to the north, the side Tom might fall down, it was about 8,000 ft. to the glacier. My safeguarding move in the event of emergency would be to move down the opposite side of the snow arête to that of the falling man. We had all this carefully worked out before Tom started up, wearing crampons.

Although only 10 ft. in height, the rock was a smooth slab, and an apparent crack which slanted across about 8 ft. up was very shallow and filled with debris. At the third attempt Tom was able to balance up on a scrape hold for two crampons' points, and then levering himself up on the inadequate lip of the crack, albeit now excavated, reach over the top for what the French call the *prise d'arrivée*. At the top Tom put in a piton, as a belay for himself, and also to fix a bight of rope as a fixed rope to give me an additional handhold. On the descent we abseiled down this pitch.

I would certainly have demanded a shoulder in leading such a place. Part of the trouble was that the take-off was very poor, being just the soft snow forming the crest of the arête. However, it was brilliantly achieved, and the standard was V, i.e. Grade Five. Here Tom invited me to lead the final 150-ft. section on the ridge to the East summit. It was a knife-edge such as I have never been on before : the snow had a thin softish crust on it, and underneath was small-granular and sand-like. We were climbing on the North side, which was less steep but more exposed, and, as before, the only safeguard against a slip was to nip quickly on to the opposite side of the arête. The whole proceeding was such that we only moved one at a time. Eventually we got to the East summit. According to my aneroid it was just three metres higher than the West summit. The top was a gracefully fine knife-edge of snow, soft and feathery to the touch, easily disturbed and trodden down. But no trace of our ascent will remain apart from the piton in the rocks 150 ft. down towards the col. This piton is a French one ! When the French expedition came up the South-east ridge they reached the East summit from the opposite side to us, in a snowstorm, and they did not go on to the col nor to the West summit. Indeed, they did not realize how nearly the tops are the same height.



Photo, J. M. Hartog]

PATEY NEAR THE EAST SUMMIT; K2 BEHIND.

Photo, J. M. Hartog]

LOOKING DOWN THE SOUTH-EAST RIDGE FROM THE EAST SUMMIT. THE FRENCH REACHED THIS RIDGE AT THE COL ON THE LEFT OF THE PHOTOGRAPH.

THE DESCENT

It was 4.30 P.M. before Tom and I left the East summit to descend. What a perfect day, what a perfect evening! What wonderful views we had from the top in every direction! K2 was the most prominent of all, showing towards us great rich, red-brown rocks, and very little snow or ice.

The other great peaks stood out, especially Broad, and Gasherbrum. Masherbrum, which looks very fine from the north, and was virtually the only great peak we'd been able to see before, was now dwarfed. Far away, all on its own, there was a massive great mountain, all white. It could only be Nanga Parbat. Tom wanted to hurry down, but this was what I had come for, this was the culmination of a dream in 1936, that I might climb the Muztagh Tower. Before me, all around, was the incomparable view of the Baltoro. I was certainly not going to rush madly up and down hill, without a chance to take it all in. Already I had cut down my photography to a minimum, but always to have to keep one's eyes on one's footsteps? Nonsense. Perhaps I should point out here that besides being the fastest goer of our party, Tom was also the youngest.

Anyhow, we toddled on down, and after I had drunk, if not my fill, at least a deep draught, of the beauty, I put my best foot forward and we rattled down the slopes. By the time we got to the place where we had met Mac and Joe on the way up it was 7.30 P.M. and getting dark. So I insisted on a bivouac.

So we found ourselves a little shelter at about 22,000 ft. in the lee of a little ice-cliff; really we were on the snow bridge of a small crevasse, about three feet from our upward tracks. Here we sat the night out. Tom was saying that he was going to get frostbite, and that his circulation was bad. I was saying what nonsense; we have plenty of clothes; it's not very cold; my feet are quite O.K. His complaints were sufficient for me to offer to rub him, and put my arm round him, and I kept this up all night, rubbing his thighs, legs, feet. My own overboots were caked in ice and I could not get at the laces, but I had taken my crampons off; the quilted eiderdown socks I had with me remained in the rucksack. But as I could feel my toes quite plainly inside my boots and could waggle them about, I was quite happy. Neither of us slept.

At dawn we roped up, put on crampons, and set off down to Camp IV. During the night Tom was so convinced that he was going to get frostbite that he took a drug said to be of use if taken within four hours of the freezing. We got back to camp at 5.30 A.M., Tom saying that he was feeling rotten and having great difficulty in keeping awake. He collapsed into his sleeping-bag, while I tried to cook some food and

melt some water. Tom was in a bad way, and thought he had a fever, probably the effect of the drug. About 9.30 A.M. I climbed down a couple of hundred feet to where I could see Camp III, and hailed Mac. He could hear, and so we bawled out to one another, and I said that we hoped to descend during the afternoon.

Then back in the tent Tom said that he couldn't possibly descend that day. Neither of us was very consciously hungry, though we were short of food and drink. Anyhow, we were sleepy, and I thought that I might as well take my boots off and get into the sleeping-bag. The time was now 11.30 A.M. When I got my socks off to put on dry warm ones, Tom glanced at my feet and said, 'You're frostbitten.' That was the first I knew about it. Anyhow, I got into my bag, and Tom gave me the drug.

Next day I felt rotten, but we had got to go down. This time we had to carry the tent, stove, pressure cooker and sleeping-bags. So we got ready, had a brief breakfast, packed up, and set off down to the start of the 100-ft. vertical abseil. Tom was feeling rather better than the previous day, I a lot worse.

How we blessed those fixed ropes. Without them we should have been in constant danger. I set off down the abseil. My sling, which for a comfortable abseil I should have been sitting in, was round me as a waist-loop ; I wondered what had happened to the spare slings. Foolishly, instead of taking off my waist-loop, I put the rope on the old-fashioned way and set off down. Now the rope was a single-strand nylon line. It cut viciously and removed the skin (through my clothes) both from my thigh and my neck. Half-way down I was out of breath and had to stop, panting, until I could get it back. I realized how excited I was at having got up the Tower, at the whole party having got up the Tower. Then I was sick. And before I knew what was happening I was wetting my trousers uncontrollably—just like a small boy. I remember thinking that thank goodness I'd not had very much to drink. At the bottom of the vertical section of the abseil I was sick again. Tom came down and joined me. We had about 900 ft. more to descend, nearly all on fixed rope, but no more abseils. The steep sections I did with the fixed rope through my waist karabiner, as a *rappel à la Genevoise*, and the other with the rope through the karabiner just plain. At every rope's end I stopped for breath and to vomit. But with the fixed rope all was well. In one place near the top of a couloir, I lost my foothold and overhung its top. I was held by the fixed rope and by my climbing rope to Tom, who was belayed, for in our condition it was not really safe for us both to be moving at the same time.

We were about thirty minutes above camp when Mac and Joe came out to ask if we were O.K. I was feeling weak and rather ashamed of

myself, but Tom shouted out that I was frostbitten, and could they take my load. So they came up to meet us, and we went slowly down to meet them.

How exciting that meeting was ; they were so glad to see us, and we to see them. I'd picked up a glove Joe had dropped higher up and gave it to him. He was touched. Mac said I was so excited that I was talking as if I was drunk. But I *was*, intoxicated with happiness ; alcohol isn't necessary to achieve that state.

This was my return to Camp III—about 10.30 A.M. For the next twenty-four hours I was constantly sick, and, though very awake mentally, felt physically exhausted. On the third day we went down to Camp II. Joe reascended solo to fetch my sack.

Going down to Camp II, Mac and I were together. Tom and Joe had gone down the same day that I had arrived at Camp III. On the steep ice-slope we were on the fixed ropes when we were caught in an unpleasantly large stone-fall from the cliff above. By now summer seemed to have set in ; the ice was melting and the cliff was disintegrating. There were four large chunks, which must have weighed three or four tons each, and many smaller fragments. Mac and I were dancing round on the ice, hanging on the fixed rope. I saw Mac throw up his ice-axe and make a vain attempt to catch it.

At the end of perhaps two minutes it was over. We both stood up. I had lost a crampon. Mac had lost his sack. He never felt it go, but we found it, strapless, about 600 ft. lower. The two cameras inside were intact.

From Urdokas I was carried down by the French expedition, with whom we had made the greatest friends, and whose success in reaching the East summit on July 12–13 gave us enormous pleasure. As they had to descend, and insisted on taking me with them to save my feet, and as our plans had included a trip to Concordia to re-take Sella's famous photograph, I parted from Mac and Joe on July 20. Tom came with me.

Other accounts have been given of hair-raising descents of injured men ; for me it was nearly as exciting as climbing the mountain.

The kindness, gentleness and care of the whole French expedition were beyond words. They all individually helped to carry me. They mothered and befriended me, nursed me, and gave me medical treatment until I reached Karachi.

RÉSUMÉ

The mountain technically appeared to have been the hardest climbed in the Himalaya. In my view the route would have been in the first rank as a ' mixed ' expedition if it were in the Alps, 10,000 ft. lower.

I was fortunate in having the staunchest companions. The weather was varied. The four days we were above Camp III were all perfectly fine.

The kindness of the French remains for me one of the noblest deeds in the history of international mountaineering—the conversion of rivalry to great friendship and affection.