Beyond the works of P. Deliradeff in the Bulgarian language and the volumes of the 'Bölgarski Turist' there is no mountaineering literature in the usual sense. Nearer at hand we have nothing but odd bits scattered over the journals. A comprehensive book on Mountainous Bulgaria awaits its author.

The Gangotri Glacier and Leo Pargial, 1933.

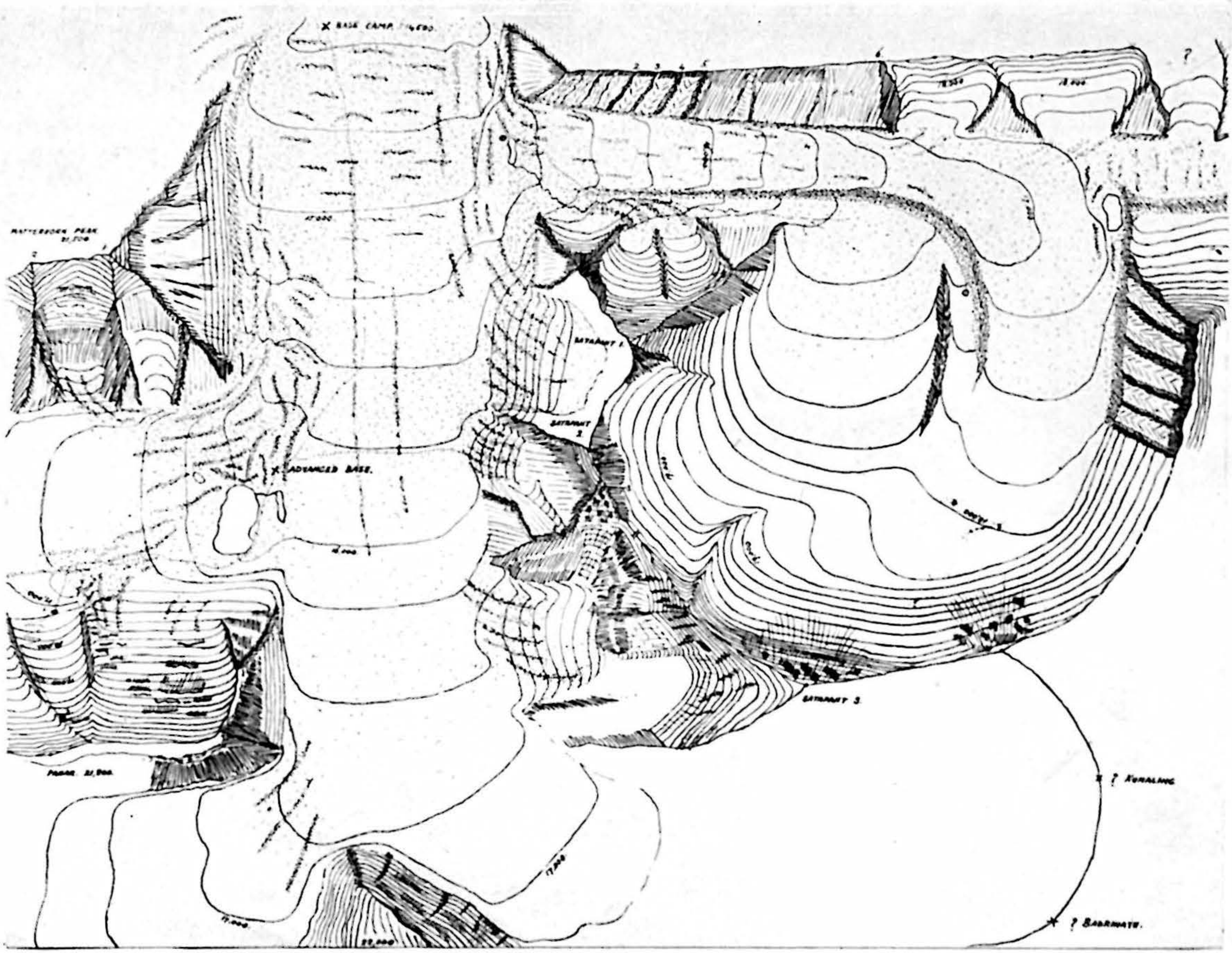
By C. WARREN.

(Read before the Alpine Club, May 8, 1934.)

TO those of us who live outside India an opportunity of taking a mountaineering holiday in the Himalayan range does not come every day in our lifetime, so when, towards the end of 1932, I received an invitation to join the Pallis expedition to the Garhwal Himalaya I had little difficulty in deciding to accept the pleasant offer of my friends—an offer which implied not only a chance of travelling in a strange country amongst interesting native hill-people, but also, as we hoped, of recapturing for once something of the thrill which the early travellers in the Alps must have experienced in those days when they were still comparatively unexplored.

From the very time of its conception it was decided that the expedition was to be kept as like an ordinary Alpine holiday as was compatible with the change to a broader and less cultivated field of mountaineering operations; and in order to maintain such an attitude it was at once decided that the members of the expedition were to do their own carrying on the mountains. Porters would, of course, have to be engaged to carry enough equipment to maintain us at a base camp for a period of one month to six weeks, but, with the exception of a few picked men who would be retained to run the camp for us, the others would all be sent back.

Obviously such methods of approach could only be applied to certain selected areas in the Himalaya; siege tactics must still remain the only successful method of attack on the giants of the range. So in the present instance a district was chosen in which the mountains were neither too lofty nor yet too difficult of access. The ranges round the Gangotri Glacier and the mountains near the Sutlej valley seemed to fulfil our



SKETCH MAP MADE ON THE GANGOTRI GLACIER.
(Contours and heights of peaks approximate only.)
Scale approx. 1 inch to 3 inches.

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requirements, the peaks in these two districts rising to a maximum altitude of about 23,000 ft. The former district had the added attraction of presenting for travel a small area of country which was still comparatively unexplored. By selecting such districts and applying such methods of attack within them, it was hoped perhaps that we should be able to emphasize to some extent the similarities rather than the differences between mountaineering there and in the Alps.

The primary object of the expedition then was to be mountaineering for its own sake. In addition to this it was originally hoped that two of us would be able to make a plane-table survey of a part of the district near the Gangotri Glacier during the monsoon period. But as things turned out the rains hit us on the glacier with more violence than was anticipated, so the map was never made.

By the end of 1932 our plans were settled provisionally. We were to visit first the Gangotri Glacier, the tributaries of which were to be explored as far as proved possible. We also hoped to be able to climb some of the peaks which surround this, one of the longest glaciers in the Himalaya, though we set out with no preconceived ideas as to what particular peak we were to attempt to climb.

The district near the place called Gangotri must nowadays be quite frequently visited by Europeans, though it is doubtful whether more than three people had previously set foot on the Gangotri Glacier. In the year 1808 one Captain Webb had visited as far as Reital on the Gangotri pilgrim route. From near this place his survey was discontinued owing to the difficulties of the country. An account of his expedition has been written by Captain Raper. 'James Fraser visited Gangotri in 1815 and was the first European to do so.'[1] Some time later Captain J. A. Hodgson (of the 10th Regiment of Native Infantry) visited the place called Gaumukh, the actual source of one of the two tributaries of the Ganges, and he mentions in his account of this visit some peaks which are almost certainly identical with the Satopanth peaks. He was probably the first European to go up on to the glacier. More recently Mr. C. F. Meade, approaching from the Badrinath side of the range, has stood upon the main watershed and actually looked down on to the glacier from that side; whilst in 1931 members of the Smythe expedition, during their

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[1] See paper by Captain J. A. Hodgson in *Edinburgh Philosophical Magazine*, April 1823, pp. 213–45.

explorations of the glaciers draining into the Arwa glen, had crossed a col and bivouacked on the snows of a glacier which is an important tributary of the Gangotri.

In mid-July, at the time when the monsoon was due to strike the southern edge of the range in these parts and so put an end to all further safe mountaineering for the season, some of our party were to fly northwards into the monsoon-free mountains round the upper reaches of the Sutlej river where they would be in a district which has become comparatively easy of access since the days of the Gerrards' travels in those parts and the completion of the Hindustan-Tibet road.

The expedition landed in Calcutta on April 30, 1933, one month after leaving Liverpool on board the s.s. *Custodian*, a cargo steamer of the Harrison Line. The long voyage out had been well employed in learning a little Hindustani; enough, we hoped, to carry us on our travels in the hills. Two days only were spent in Calcutta, during which time we were most hospitably entertained by our friends, including Mr. G. B. Gourlay of the Himalayan Club, who gave us much help and advice. The party then travelled by rail across India to Dehra Dun, where we were met by Mr. J. M. Gorrie of the Forestry Institution, who had been busy on our behalf finding us a man to replace Lewa. Lewa was to have come with us as *sirdar*, but on arrival in India we learned that he had been translated to higher things on Everest. A man named Jai Dhatt of the Brahmin caste and a native of the state of Tehri Garhwal, into which the expedition was going, was presented to us.

After a day spent in Dehra Dun, three of the party, taking Jai Dhatt with them, went on up to Mussoorie. Two of us stayed an extra day for the purpose of paying a visit to the Rajah of Tehri Garhwal at Narendranagar.

On May 4 we were all together again up at Mussoorie, our starting-point for the hills. There was much to be done within the next few days in preparation for the start, and the members of the expedition—consisting of Marco Pallis,[2] leader; Richard Nicholson, F. E. Hicks, Colin Kirkus and myself—were kept busy resorting and packing the loads—so that each one weighed 50 lbs.—obtaining an adequate supply of coin with which to pay the porters on the trek, and interviewing

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[2] For a fuller account of the expedition by Mr. Pallis, see *H.J.* VI, pp. 106–26.

would-be cooks. The question of finding a good man to cook for us required careful attention, for after all an army does march on its belly, and furthermore the health of an expedition rests very largely in the hands of its cook. Before leaving for India the experts on Himalayan travel had been consulted on the question of cooks. In the end we decided to follow C. F. Meade's golden rule of Himalayan travel and avoid a professional in favour of a porter trained by ourselves to the office. A man selected to go with us as a porter was keen to act as cook. On enquiring from Midar Singh whether he had cooked before (for we wanted to ascertain that he was still in a state of innocence in this respect) he assured us emphatically that he had never done so in his life. Whereupon he was at once engaged to come as cook. In spite of his assurances, on our very first night out in the hills, we were served with a feast fit for the table of Lucullus.

On the advice of Gorrie, who had heard that the path to Gangotri might in places be impassable for pack animals, we decided to use coolie transport. Jai Dhatt thereupon was sent out into the highways and hedges of Mussoorie to gather in a number of men from amongst the ordinary Garhwali coolie class to carry for us as far as Gangotri. It had always been our intention to engage fresh men of the stronger hill types for the later and more strenuous stages of the march.

At length by May 7 our preparations were completed, but the start was delayed for two more days by some bad weather. On May 10 we set out from Mussoorie on the 120-mile march to the Gangotri Glacier, accompanied by 67 coolies carrying stores and equipment. We took the hill path which would bring us down into the Bhagirathi valley at Dharasu. This route took us up and down over the foothills and afforded excellent training for the party. Before dropping down to the stuffy floor of the Ganges valley, we had to mount to a 9000-ft. col from which we looked out on to the whole range of Gangotri peaks.

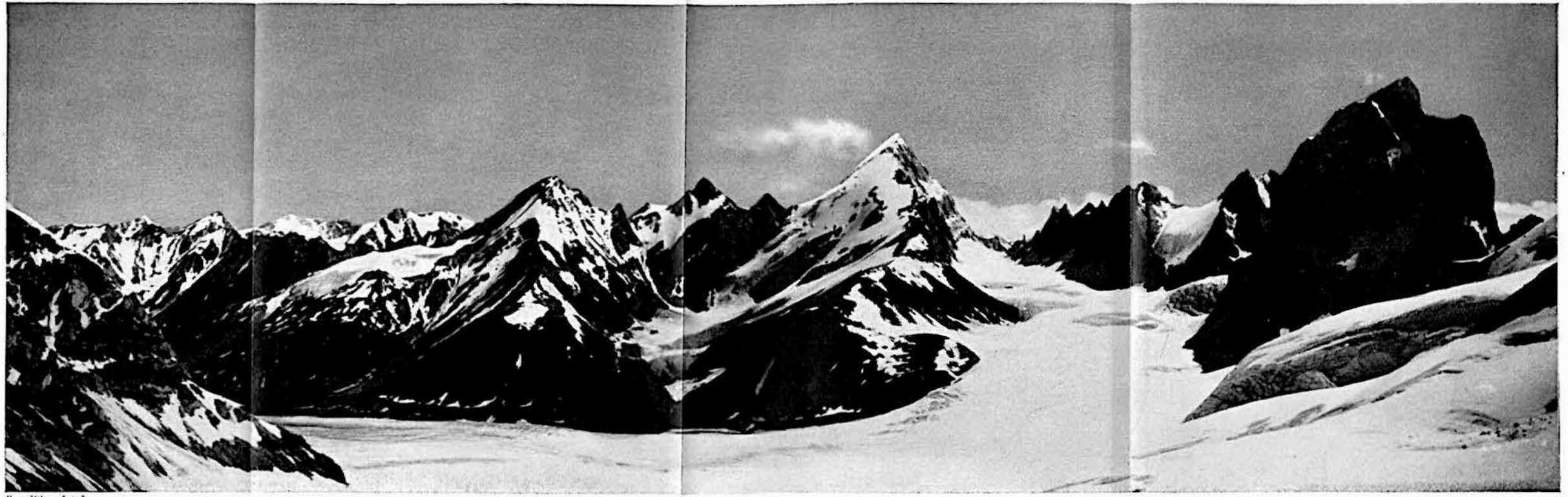
At Dharasu we pitched our tents on a little patch of sandy ground alongside the river. From the tent doors we could watch the movements of the pilgrim community opposite as they pottered up and down to the water's edge from a small hostel built near the stream. Henceforth we should be travelling along the great pilgrim route which runs as far as the temple at Gangotri.

The temple stands some 16 miles downstream from the true source of the Ganges where its waters appear from beneath the

ice at the snout of the glacier, a place called Gaumukh or the Cow's Mouth. The cow is the Hindu's most cherished household god and by a natural association of ideas he has come to think of his great river, the mother of plenty who waters his fields and brings life to his crops whereby he is enabled to exist, as issuing from the mouth of one of these creatures. The average pilgrim is content to make the journey as far as the temple at Gangotri ; only the more ardent ascetics travel on to Gaumukh. In consequence, the pilgrim path ends at Gangotri. Beyond that spot the route to the glacier lies over trackless and difficult ground in a part of the valley which is only visited late in the season by a few hardy herdsmen with their flocks of sheep and goats.

Further along the march, at a place called Khot Bungalow, Pallis stopped to exchange greetings with a little group of Jadhs. One man was enterprising enough to answer his questions put in Tibetan. Pallis waited here while the rest of us went on into camp. Later in the evening he reappeared with the news that he had invited his Tibetan friend to dinner, though he was afraid that Ishwar Singh might be too timid to accept our hospitality. We delayed the meal, but there was no sign of our guest's coming. On the next day we moved off early, leaving Pallis to return to the Jadhs for further practice in the Tibetan language. When he overtook us later in the day we heard that Ishwar Singh had made up his mind to come to the glacier with us. His wife did not appear to think it the least bit strange that he should thus suddenly decide to go off with total strangers a journey which might keep him from home for many days.

Ishwar Singh was an exceptional man. He was a Tibetan of the type found in these parts of the range and a native of Poo, in the Sutlej valley. At this time he was a goatherd by profession, though at other times he had travelled all about these valleys and even down to the plains in the capacity of a dealer in horses, which would account to some extent for his knowledge of quite a wide area of the country and for his liberal views, for he was in no way superstitious or priest-ridden, as are so many of his race. Like the Vicar of Bray, he could change his coat when the occasion demanded it of him, and indeed on one memorable occasion actually did so. When we were at Sarahan two of us went to pay a call on the Rajah of Bashahr. In the course of our conversation with the Rajah he had occasion to make a remark to somebody standing behind us. On turning to see the person thus addressed, we



Expedition photo.]

PANORAMA OF PEAKS TO THE NORTH OF 'PALLIS' COL.

[To face p. 311

could scarcely restrain our mirth at seeing Ishwar Singh, who at the very door of the palace must have effected the change, transformed into the devout Hindu and loyal subject, complete with turban and shoeless in the royal presence. To all these qualities must be added the gift of tongues, for he could read and write both Tibetan and Hindustani. On one occasion in camp he was seen to be reading a book. It turned out to be an English-Tibetan dictionary.

Before reaching Harsil and soon after leaving the magnificent gorge in which we had camped for the night at a place called Gugnani, near some hot springs, we came upon another Jadh settlement. Here we were greeted by the headman of the community, a venerable gentleman with a smiling face and friendly manner who, after exchange of courtesies and gifts, agreed to send us a number of men at Harsil to replace the Garhwali porters who wanted to return from that place.

At Harsil the general direction of the valley takes a sharp turn to the E. and its floor broadens to an expanse of open pastures studded over with magnificent cedar trees. A camp was placed near the river at a reasonable distance from the village, and here we prepared to stay for several days because there was some reorganization to be done. To begin with, many of the porters were to leave us and be replaced by Jadhs. These men had to be paid off. Amongst those who were to go, and much to our regret, were Jai Dhatt and Midar Singh, the cook. We still had with us Dan Singh, a Hindu and a native of Badrinath, and Jun Singh, a friend of Ishwar Singh. These men, together with the Hindu boy called Khimanand, we decided were to be the porters who would go on to the glacier with us. Then the stores had to be re-sorted because some of the cases were to be dumped in the next village to await our return from the glacier on the arrival of the monsoon.

On May 22 we loaded up the new men and moved off again. These fellows would start off at a half-run and so cover a few hundred yards ; they would then sit down and rest for at least ten minutes, and at each rest the pipe would go the round. The result of such a method of progress was that we moved along at the dismal speed of one mile an hour.

On leaving the village of Dharali, where stores were dumped, the left bank of the river was followed for some miles until the walls of the fine open valley up which we had been walking suddenly closed in at the mouth of the great Gangotri gorge. Here at a place called Jangla the torrent is spanned by a bridge, and on the other side the path takes a precipitous route along

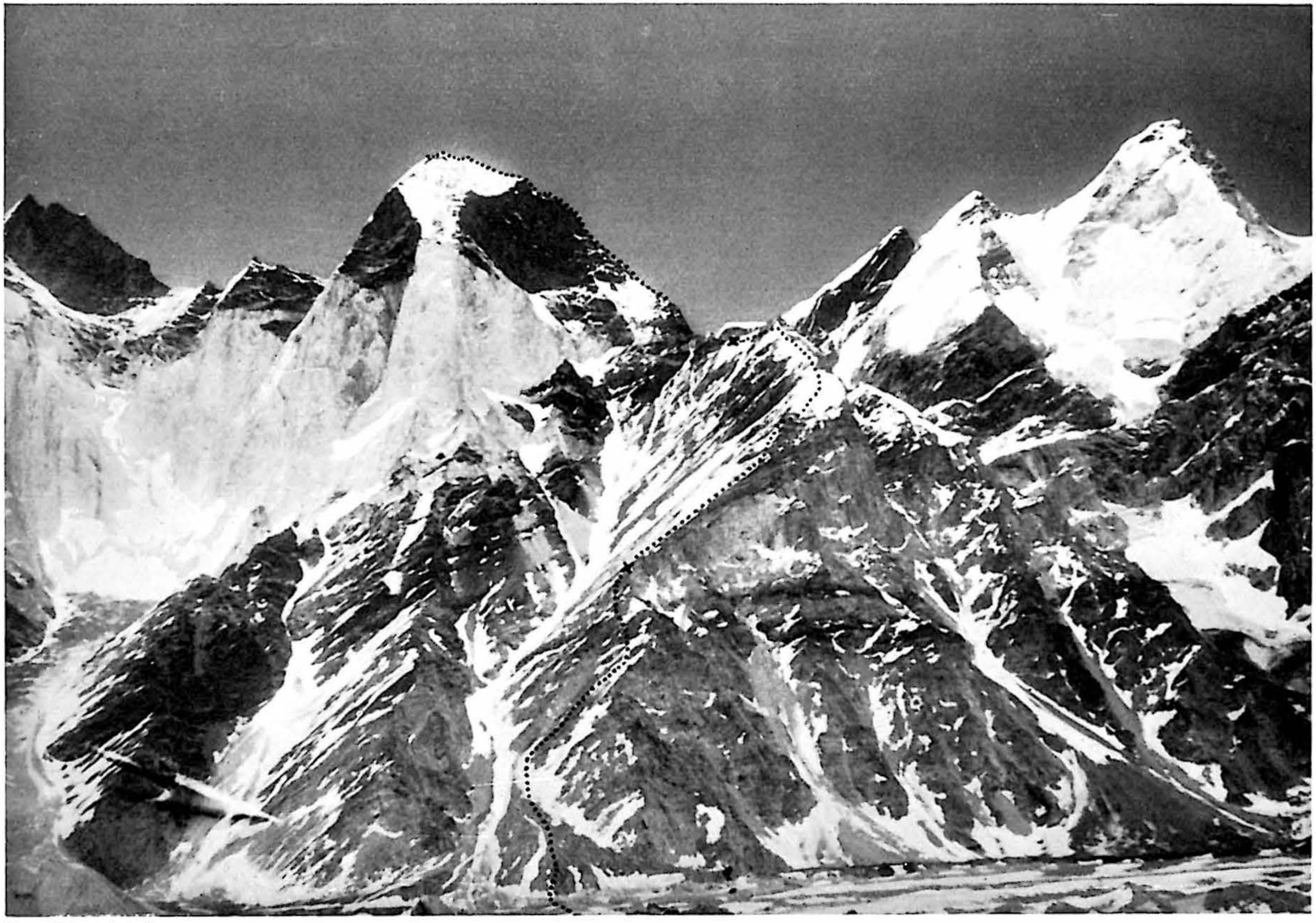
the wall of the gorge until at Bhairangathi bridge it dips down steeply to the level of the river. At Bhairangathi bridge the Jadh Ganga flows into the Bhagirathi, the streams uniting in a pool everywhere overhung by rock walls which have been scooped and polished smooth by the continual friction of the water. It is impossible to imagine a more awe-inspiring place. The scenery is quite fantastic—like that depicted in certain illustrations to Dante.

We camped for the night at Bhairangathi bridge near the pilgrim meeting-place and moved on past Gangotri the next day. Beyond Gangotri the going at once became very rough and our men straggled and began to complain of the hardships of the march. In order to get the caravan moving properly we had to send back our *sirdar*, who by now had become more of an obstruction to the party than a help, and institute some strict marching orders. Short halts were initiated every half-hour and long halts at the hour. Stragglers were urged on at the point of the ice axe.

At length, on May 25, we pitched camp within sight of the glacier near a collection of birch trees. Birchwood Camp, as it was always called, was only about a mile from the nose of the glacier. From it we could see that the head of the valley was dominated by two magnificent peaks identified as the first two Satopanth peaks. Now that we were within easy reach of the glacier we decided to pay off and send back our faint-hearted crowd of Garhwali porters : these left us accordingly early the next morning, while the Jadhs remained to take us in three relays to a base camp on the glacier.

The next day we made the first journey up on to the ice and selected a site for the camp about 3 miles from the end of the glacier. Before setting out we had made the mistake of issuing boots, clothing and snow goggles to the four porters who were to remain up there with us. The others soon decided to make this an occasion for grumbles, pitifully bewailing their lack of proper equipment for the short walk on to the glacier. The 4 hours' march up a most evil moraine had seriously upset their morale. On getting back to camp the Jadhs bemoaned their fate and refused to make another journey. We let them settle round their fires and finish the evening meal, then Pallis distributed cigarettes and read them a short lecture on which they were allowed to sleep. By the following morning they had all agreed to make one more march to the glacier.

On May 27 two of us inaugurated the base camp. This was placed among the moraine hummocks in the centre of the



Expedition photo.]

SATOPANTH PEAKS FROM ADVANCED BASE CAMP.

Route on Second Satopanth Peak (22,060 ft.) indicated together with first and second bivouac camps.

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Expedition photo.]

PRECIPICES ON THE GLACIER FACE OF THE SECOND SATOPANTH PEAK.

glacier at an altitude of about 14,500 ft. It was in a poor position, as we were soon to learn. In the morning and evening a cold draught sent you shivering into the tent, while at midday it was uncomfortably hot and stuffy. Furthermore, it very soon became obvious that it was much too far away from those peaks appearing most accessible. But this was the best site which could be found at a time when struggling with porter difficulties and still believing in our original plan of pitching a camp right in the middle of the main glacier whence we could climb a number of peaks nicely arranged on either hand.

At the period of occupying this site the glacier was still covered with snow from which protruded crops of boulders. These stony outcrops had to be levelled into platforms for the tents. While the snow lasted it was possible at the end of an hour's walking to put on ski and move up the glacier with ease, but even by the end of a week this proved no longer feasible.

The first days at base camp were spent in making a reconnaissance of the district to discover climbable peaks. From here we could see that two lateral glaciers drained into the main glacier on its true right bank. The extent and possibilities of these required further investigation, so on May 30, while Pallis and Nicholson went to the first lateral glacier, Kirkus visited the second glacier, and Hicks and I put on skis and travelled up the main glacier for about 5 miles to a point where it is joined by a lateral flowing into it on the left bank. Immediately in front of us at this point was a very high snow mountain which appeared almost as though it could be ascended on skis.

Some days later parties set out again from the base on various expeditions. At this time Pallis took Dan Singh with him up the first side glacier to ascend a 20,000-ft. peak on which he had worked out a route. They climbed up to a snowy depression on this mountain, at which point Dan Singh began to feel the effects of the altitude and could not proceed. Pallis ascended the last 1000 ft. alone, thus completing the climb. In the meantime Hicks and Kirkus had been sedulously training on the lesser heights. They had climbed an 18,000-ft. rock pinnacle on the N. buttress of the first Satopanth peak, always referred to as the Satopanth Satellite. Later they had made an ascent of one of the points on a group of peaks near the base camp. This mountain was about 19,000 ft. high. Nicholson and I spent two days up the second glacier, in the course of which we made various discoveries. We found that

a glacier basin of very considerable extent lay to the N.E. of the watershed formed by the Satopanth peaks. We were able to draw a sketch map of this area, which was not indicated at all on our maps. Moreover, being almost certain we had identified the glacier on which Birnie of the Smythe expedition had put a bivouac from which he saw the end of the Gangotri Glacier some ten miles distant, we were able to see how our map would link up with his sketch map of the district further to the E.

Soon after these preliminary explorations it was decided that three of us should go up the glacier and make an attempt on the 'Big White Peak.' Accordingly, on June 7, Hicks, Kirkus and I left base camp each laden with a 30-lb. pack. Accompanying us were Dan Singh and Khimanand, carrying slightly heavier loads. At the end of an hour we reached the skis where they had been left previously. To our disgust we discovered that all the nicely connecting little snowfields which on a previous occasion had made it possible for us to ski all the way to the site of our advanced base camp had melted away. So we were driven to carrying the skis on the top of the other loads. We reached the advance base at 2.30 P.M., having sent back the two porters half an hour earlier. The rest of the day was spent in pitching the heavy (18-lb.) base camp tent and making camp comfortable. We turned in soon after sundown. The night outside was perfect, clear and cold under a flood of moonlight. One or two wisps of cloud were hanging waist-high on the Satopanths. The cliffs of the 'Matterhorn' peak looked more fantastic than ever in the queer light.

The next day we set off from our advanced base, from our aneroid reading supposed to be at an altitude of 15,670 ft., carrying with us enough food for five days on the mountain. We pitched a camp that evening on the snow near some rocks at an altitude of 17,160 ft. On June 9 we rose as soon as the sun struck the tents. The sleeping-sacks were covered with hoar frost. After breakfasting on pemmican and biscuits we dropped one of the tents and threw stones on it. Then started the game of ejecting all unnecessary weight from the loads: crampons went first, then the outer covers to the special high-altitude gloves. At last, having made ourselves as light as possible, we set off up steepening slopes towards an outcrop of rocks at an altitude of 19,480 ft., on which we set up our one bivouac tent, which now had to hold three people.

At breakfast the next day it was discovered that we had not really brought enough food, so it became necessary to ration

ourselves to five biscuits apiece during the day, to which we could each add a handful of sweets carried in our pockets. The effects of the altitude were beginning to be well marked. On starting off from this camp I found that I could go only 40 paces up the slope before I had to halt to allow fatigue in the muscles of my legs to wear off. At the end of some seconds I could set off again as though I had never been stopped, but came always to a standstill within the said 40 paces.

We decided to leave the ski behind at this camp. Then, kicking steps up snow slopes at varying but never very steep angles, we mounted steadily for about 1500 ft., looking all the time for some rocks, seen from below, on which to pitch the bivouac. By 3 P.M. it was decided that we had gone far enough for that day, so we searched round for the nearest level ground on which to camp. The only possible place was near a small crevasse a little way below us, and here we set about trying to level out a platform in the snow. But we never could make it wide enough to take the tent, not even at the end of an hour's work ; furthermore the site was unpleasantly exposed. So in the end, reluctantly losing height, we retreated to some rocks 200 ft. below.

All felt rather sick the next morning after the pemmican breakfast, but eventually we got away by 8 A.M. We mounted by kicking steps in good firm snow until nearly level with the foot of a small ice cliff forming a prominent feature of this face of the mountain. The cliff appeared to be about 500 ft. from the summit. Below this obstacle we halted to take stock of the threatening weather. Thunder clouds were piling up over the crest of our mountain, which was soon obscured from sight in mist. After taking counsel together it was decided that we must retreat, for we could scarcely weather a storm at last night's bivouac ; nor could we risk being snowed up here, with the small amount of food now remaining. Accordingly we retreated to the bivouac, which was quickly packed up and carried on down to the ski camp. Skis were bound on and a glorious but exhausting run was made down to where the tent and other cast-offs had been left behind at the first bivouac. Even then we did not reach camp before heavy snow commenced falling.

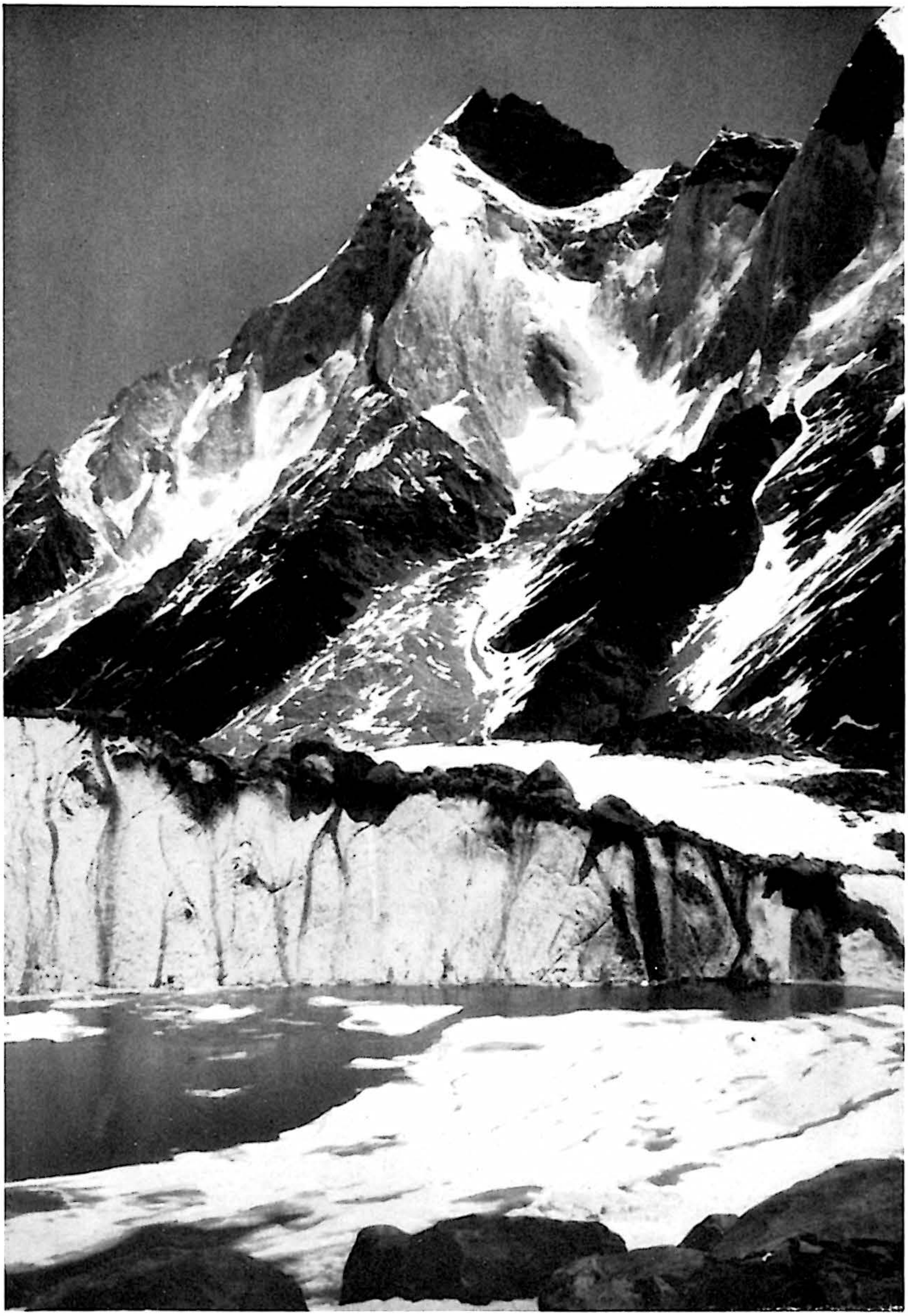
The next morning, without waiting to breakfast on pemmican, which by now we had decided was not worth the trouble of cooking, we all crawled back to the advanced base, Hicks and Kirkus going on down to base camp the same day. Kirkus was to rejoin me at advanced base in two days' time with the

intention of the two of us starting on a surveying journey up the main glacier.

Left alone at advanced base for the next two days I had ample leisure time in which to study the surrounding mountains. Soon the second or Central Satopanth peak began to attract my notice because on it I thought I could see a fairly reasonable route to the summit. On Kirkus returning the next day with the plane table and fresh supplies of food, we discussed the possibilities of this route. He also had been attracted by exactly the same line of weakness in the mountain's defences, having studied it from a different angle during his walk up the glacier. Ultimately it was decided to postpone the surveying expedition and start out to climb the Satopanth peak.

The glacier side of the second Satopanth peak is composed almost entirely of bare rock. This stupendous granite wall forming the greater part of this face of the mountain is supported at its right-hand corner by a ridge which, at its uppermost extremity, merges into the main mass of rock not far below the summit. In the angle between the buttress and the rock wall a long gully seams the face. A small gap high up on the buttress at the head of this gully appeared to form a site for a bivouac on the way up. At this place we should be encamped at the foot of the first great step on the climb.

On June 15 we set off across the glacier, steering for the foot of the buttress. We were carrying a tent, sleeping-sacks, cooking apparatus and enough food for a week, and I should guess that our sacks weighed about 30 lbs. In one hour we crossed the glacier, much broken up on its eastern side, and in another hour were panting up a steep little snow fan towards the rocks of the mountain. A delightful stretch of old moraine led us upwards at a gentle gradient to the foot of the couloir. We then bore away to the right up steeper slopes to gain the crest of the ridge at the foot of a tower. This was surmounted, not without a slight struggle, by climbing directly up a fine slab reminding one of a Welsh 'pitch.' Beyond the tower another obstacle had to be turned by making a traverse across very steep rocks and then climbing back to the ridge again. At 1.30 P.M. we halted and I pointed out to Kirkus a snow patch which could be made to accommodate our tent, for there seemed to be little suitable ground within reach higher up. We set to work to level out a platform for the tent by digging snow and building up with rocks. Nearly two hours passed before we had completed our foundations and crawled into the firmly-pitched bivouac tent to avoid the chilly evening draught.



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THE FIRST OF THE SATCPANTH PEAKS.

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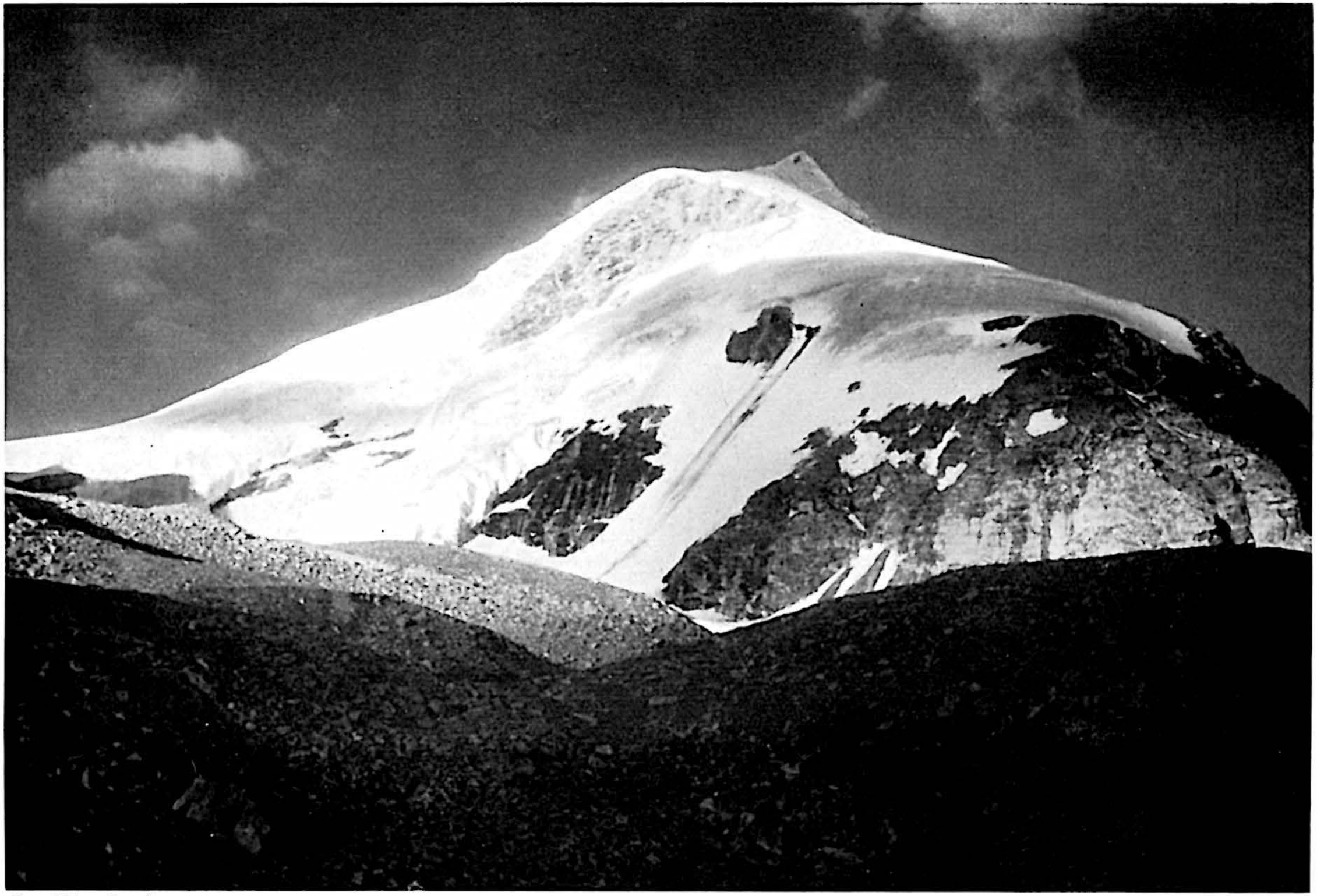

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NORTH PEAK OF LEO PARGIAL, 22,227 FT.

The route to the shoulder from the col lies up the slopes on the left of the photograph.

Next day we were up at 6 A.M., but were unable to get started at once on account of the difficulty of folding up the frozen tent. We were off, however, as soon as the sun was up and by 2.30 P.M. had reached the gap at the foot of the first step. From the sleeve-door of the tent we could look out across those astonishing grey cliffs down towards the base camp, and into the valley far beyond. Periodically we were startled by a report like a pistol shot coming from somewhere behind the tent. Then a few seconds later there would come a clatter of falling material as a miniature avalanche of rocks and ice slid from the big Satopanth peak next door into the shallow ice couloir streaking its face. After spending a comfortable night in the gap we set out to turn the first step on the ridge. This was done by making a long traverse, striking up a shallow rock gully, then turning back to the crest of the ridge above the step. The general angle of the slope here was exceedingly high, but the perfect firmness of the snow made progress straightforward and easy. Above the step we scrambled up the very rotten rocks of the ridge over a series of towers until eventually we could attain the main S. ridge at the foot of the last great obstacle.

At 6 A.M. on June 18 we saw from the tent that it had been sleeting, and before proceeding mist had partly obscured some of the nearer peaks. We began to wonder if this was the beginning of the monsoon ; and if so, should we get to the top of our mountain in time ?

The climb up the lower rocks of the last great step was both difficult and exhausting on account of their steepness and the sprinkling of new snow. It landed us at the foot of a very disconcerting-looking corner which Kirkus surmounted by a brilliant piece of rock-climbing. It was necessary to scramble out on to an overhanging rock on small, loose holds. Above, the rock was garnished with a regular corniche of loose flakes hanging there ready to slide down on the top of us on the very slightest pretext. It was with some misgivings that I made the mental effort necessary at this altitude before bringing oneself to tackle any problem involving a physical strain, but once launched on the corner it was easier to go up than to come down—a point which I remembered in connection with the descent. But the sight meeting our eyes as we came up over the bad corner soon banished all unpleasant thoughts for the morrow, for the summit was there, quite unexpectedly close at hand and with no serious obstacle between us and that narrow wedge of frozen snow. We flung down the loads and

rested there for an hour before cutting steps up the last slope. During this halt we had a view of the 21,000-ft. peak near the base camp on which we knew that Hicks and Nicholson were climbing at this very time. I remember remarking to Kirkus as I looked at its tremendously steep upper slopes that they were wasting their time on it. Yet, on reaching the base camp some days later, we were delighted to hear that they had got to the top.

Soon the clouds closed in again and all we could see was the thin snow crest up which we had to go. At 1.5 P.M. we had cut the last step and stood on the summit.

On June 25 we all forgathered again at base camp, and by this time it was apparent that the bad weather had come to stay. Within a few days of the monsoon's arrival every mountain side was streaming with snow slides, so that any further mountaineering was clearly at an end. Yet the rains had brought about one pleasant change, for within the last week the hitherto barren surface of the moraine had suddenly become covered with numerous little Alpine flowers. And now every evening when the mists lifted out of the valley we could see that fresh green tints had been introduced into the landscape down there. Surely to descend from the monotony of this land of mist and snow into all the colour of those Alpine pastures would be the most pleasant moment in all our travels in these parts.

At length we were ready to retreat to Harsil, where we rested for some days to eat of the fleshpots and restore our sunken features. At Harsil, Hicks and Kirkus had to leave us to return to the plains. The rest of us awaited the arrival of a certain letter from Tibet which should bring permission or refusal to allow us to proceed across a corner of that country, by way of the Nilang La and the Shipki La, to reach Leo Pargial. In due time the letter arrived by runner; but the permit had been refused us. So on July 16 we found ourselves crossing the 18,000-ft. Nela Pass, on the summit of which we were entertained by seeing Ishwar Singh descend in a snow-storm with his umbrella up. Thereafter we proceeded by way of the Baspa and Sutlej valleys to Leo Pargial.

We did not know at this time which aspect of Leo Pargial would offer the best chance of a route to the summit. But at Chini we were lucky enough to be able to borrow a forestry map of the district on which a glacier was depicted flowing down, from between the two peaks of the mountain, in a westerly direction towards the village of Nako. Our line of approach would probably lie up this glacier.

On August 1 we bad farewell to Professor Tucci, whom we had met at Nangea on his way to Gartok, and two days later reached Nako. By August 4 we had put up a base camp in a sheltered hollow in the moraine of the Leo Pargial Glacier at an altitude of 18,000 ft. From this camp we could see that the two peaks of Leo Pargial were in reality entirely separate mountains. The S. summit was a rock peak, the N. a slender spire of snow.

An excursion was made up the glacier towards the depression between the two peaks. The ridge of the N. peak plunging towards the depression was seen to be impracticable. However, a promising line of ascent was discovered by way of a snow saddle on the westerly spur of the mountain. So on August 7 two of us, taking Jun Singh and Naranou with us, moved a camp up to 'Pallis col'—as I found myself calling the depression. The route from this gap lay up the snowy flank of the mountain in front of us. This slope was seen to be interrupted some 1000 ft. higher up by a series of ice cliffs, which we thought could be turned on the left, though the upper névé in this region appeared steep from below. Above the cliffs a broad shoulder of the mountain could be gained and thence a narrow snow ridge led towards the summit.

Two days later we set out up the slopes with our porters. These were helping to carry a tent and a supply of food on to the lowermost ice bulge. But within an hour of setting out from the depression it became obvious that we should have to cut steps all the way in order to make it safe for the porters; whereas we ourselves could dispense with these and walk up on crampons. So we sent Jun Singh and Naranou right down to Nako, and decided to carry up the bivouac ourselves on the morrow. In the meantime we moved up to the bulge and carved a way on to the top of it in preparation for a return thither in the morning. There had been a fall of snow in the night, but by the afternoon of the 10th we were able to carry up the bivouac equipment and pitch our tent on the brink of a sensational gully on the top of the bulge. Here we spent a chilly night.

On August 11 we dropped the tent and left our sacks in it. We bound on crampons and by 8 A.M. were cutting steps up a short slope. Beyond this slope we found that we could mount quite easily to the shoulder. The weather had been fine up till now, but a few clouds were beginning to collect in the valleys. We halted on the shoulder to drink tea, but soon were on the move again towards the final arête which, as we progressed along it, became ever narrower. By this time

clouds had collected on every side of us and the neighbouring peaks had been blotted out from view, although the summit still remained in sight not 200 ft. above us. Suddenly I heard a peculiar humming sound which appeared to be coming from my ice axe. For some seconds I did not understand what was happening. Then I moved the crackling axe and the high-pitched drone ceased for some seconds. I shouted to Pallis, who had observed a similar phenomenon. We abandoned the axes and retreated down the ridge away from them. As we crouched on the ridge our hair stood on end and our feet and scalps tingled in the highly charged atmosphere. But there was a good wind blowing and it seemed likely that the storm would be carried past us. We sat on until our hair fell limp, then continued our cat-walk to the summit.

We had come to the end of our 'midan,' as the Italian Professor had called it ; but at the end of the climb we obtained no view into the promised land of Tibet. Accordingly we hurried down from our seat in the clouds and got lost in the mist long before reaching our camp in the depression at 6 P.M.

Next day fresh snow fell as far down as 17,000 ft.

South Tyrol—or thereabouts.

By URSULA CORNING.

"Age cannot wither . . . nor custom stale
Their infinite variety."

THIS assertion by Shakespeare, who obviously would have proved an admirable man on a mountain, forms my only excuse for relating my own impressions of mountain districts which, though well known to so many, yet continue year after year to thrill fresh generations of climbers.

The Engadine during a wet August is not enlivening. The first fine interval saw me rushing to St. Moritz to see Walter Risch, very imposing in his new office as Forester. I had been fired by a note in a previous Alpine Journal, mentioning a new hut in the Val Codera (on the Italian side of Val Bregaglia), and stating that in all probability two Englishmen only, the late Douglas Freshfield and the present Editor, had ever traversed this remote glen. The place sounded pleasantly far from the madding crowd. Risch, who had only seen it from above, was keen to walk up the valley, crossing *via* the Bocchetta