

About two-thirds of the way down there was a band of almost perpendicular ice (No. 8) with an exceedingly thin covering of snow. To cut down this would have taken a long time, and, as Imboden was very exhausted, Joseph drove in a long barbed piton. To this he fixed our 200 ft. spare rope, which was just long enough to take us over the difficulty. We traversed to the extreme right, but had to work back again and down some more very steep snow, when we managed to find an easy place over the bergschrund (No. 9); and, hurrying as far as we were able under the ice-fall and over the débris, at 1 o'clock stood safely on the glacier (No. 10), having taken two hours to get off the arête. We congratulated each other on having made the first descent of the Brenva in comparative safety.

After a short rest, and Josef having kindly lightened my sack, we started up the steep snow, continually sinking to our waists, and in an hour reached the small col on the Brenva Glacier, whence we descended the steep snow to the glacier below the séracs, and at 7.15 P.M. arrived at Courmayeur quite tired out.

There was much less snow on the face this year than last; in many places the covering was quite thin. The final descent of the flank of the arête was much steeper than last year; and where last year we had beautiful snow in which to cut good steps we now had barely enough to hold us safely, and sometimes, as in the place where we used our spare rope, ice. Curiously enough, I found on looking at my diary that we made the ascent on July 11, 1911, and descended on the same day this year.

A NOTE ON THE GARHWAL HIMALAYA, 1912.

By C. F. MEADE.

THE party consisted of Pierre Blanc, Franz Lochmatter, Justin Blanc, Jean Perren and myself.

May 26.—We left camp at Mana village and camped at Khati under the foot of the Ghastole glacier.

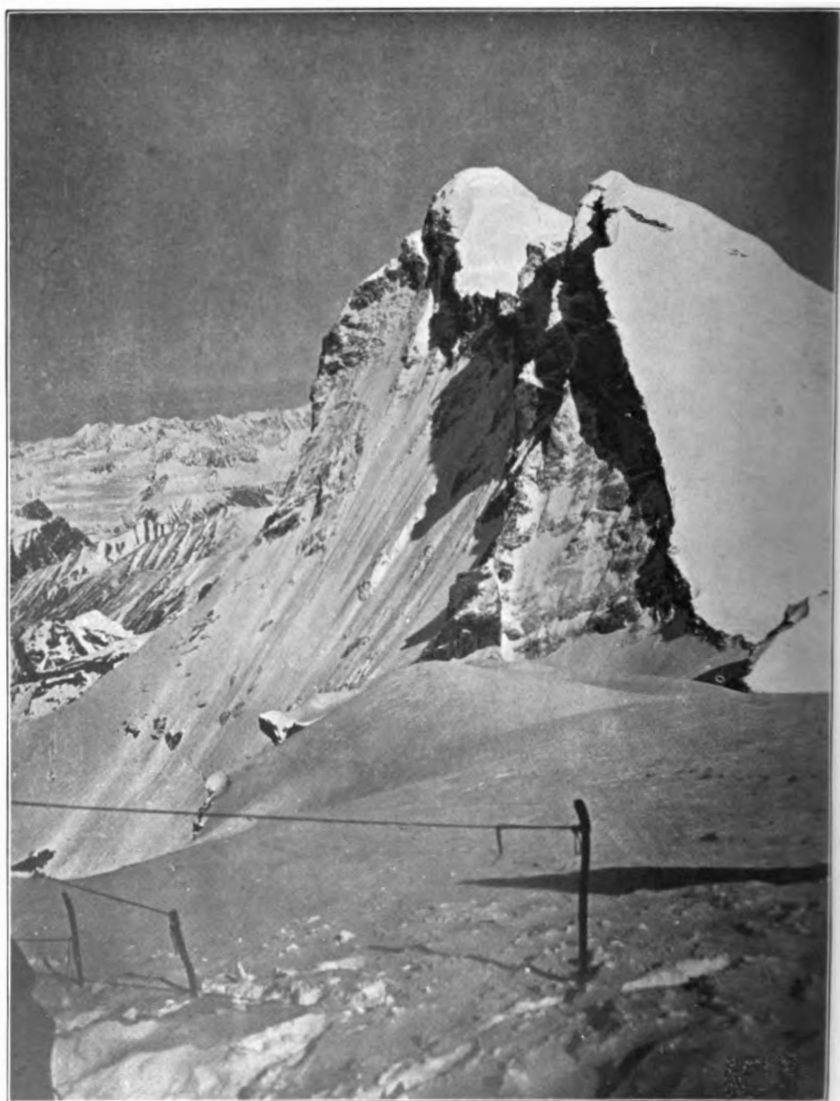
May 27.—The Bhotia coolies were sent ahead with the guides to fix a site for a main base camp on the moraine at the snout of the glacier. They made two journeys with loads.

May 28.—We all moved up to Main Base Camp.

May 29.—Leaving Main Base Camp at 6 A.M. we marched up the glacier under a blazing sun and camped half-way up it.

May 30.—Most of the party felt unwell. I attributed this to the power of the sun. Pierre descended to fetch drugs from Main Base Camp.

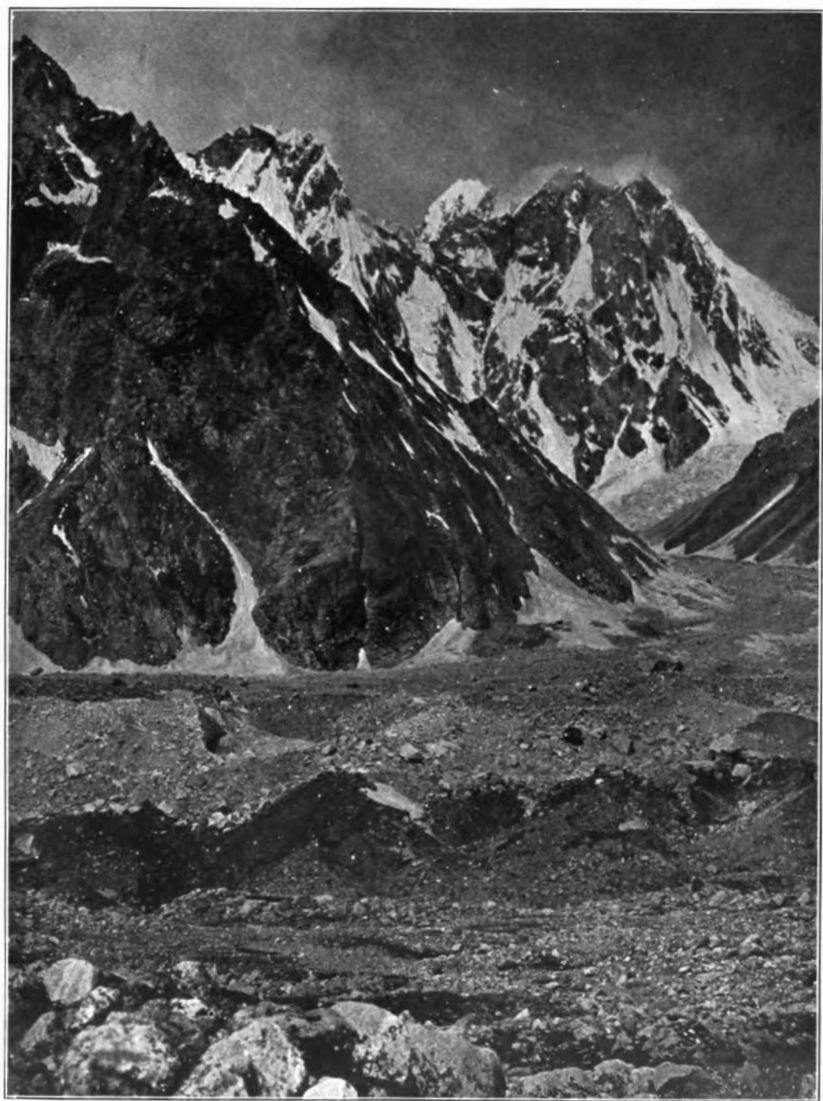
May 31 was another sunny day. We moved our camp to the foot of Slingsby's Pass at the head of the glacier and underneath



C. F. Meade, photo.

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KAMET'S 24,200 ft. NEIGHBOUR,
From highest Camp.



C.F. Meade, photo.

Swan Electric Engraving Co., Ltd.

**SATOPANT PEAKS,
Near head of Bhagat Karak Glacier.**

Kamet. We estimated the height of this camp to be over 18,000 ft. It snowed all night and the minimum Fahrenheit thermometer in the pocket inside my tent registered 12 degrees of frost.

June 1.—The weather being hopeless we returned in one march to Main Base Camp. After resting there we made another start on :—

June 4 at 1.20 A.M. with twenty Bhotias and marched to Upper Base Camp in one day of six hours.

June 5.—Starting at 5 A.M. we ascended Slingsby's Pass in about 3½ hours. From the pass we ascended soft snow slopes in the direction of Kamet, from which we appeared to be separated by only one rock tower. We camped on these snow slopes at a height of probably more than 21,000 ft.

June 6.—With the slopes in such soft condition as they were we realised that the top of Kamet could not be reached; however we continued to advance through soft snow up the slopes leading to the rock tower. Reaching a point on its N.W. ridge we waited in the hope that the clouds would lift and reveal the topography. After half an hour the weather still seemed hopeless and we returned to Upper Base Camp. We guessed our highest point to have been more than 22,000 ft. But in our subsequent explorations on the Niti side of Kamet we discovered that the rock tower is in reality a triangulated peak of 24,170 ft. From the Niti side we were afterwards able to see quite plainly the point we had reached, and we became certain that it was less than one thousand feet below the top of the 24,170-ft. peak. The highest point reached was therefore probably not 22,000 ft. but more than 23,000 ft. At our high camp my minimum thermometer had registered 52 degrees of frost inside the tent during the night.

From Upper Base Camp we descended to Main Base Camp on June 7, and on the following day returned to our camp near Mana village. Here we rested some days.

The third attempt on Kamet took place after the departure of Franz Lochmatter and his nephew, who had engagements in Europe and whom I was most sorry to lose. Reaching Upper Base Camp on June 19 we climbed Slingsby's Pass on the following day in three hours and three-quarters. From the top of the pass we ascended snow slopes in bad condition to the point where we had camped and left a tent in our previous attempt. The slope below this camp required very little more snow to make it dangerous. The amount required fell during the night. On June 21 further progress being out of the question we descended the now dangerous slope in thick mist with the six Bhotias that we had brought with us. As a precaution we fixed a balustrade of rope to an axe driven in at the top of the slope. The descent was then continued down the rock gullies of Slingsby's Pass to Upper Base Camp. In the next two days we returned to Mana.

On June 28 we explored the ice valley from which the Kulhia Ganga flows, and discovered a conspicuous pass at its head. The

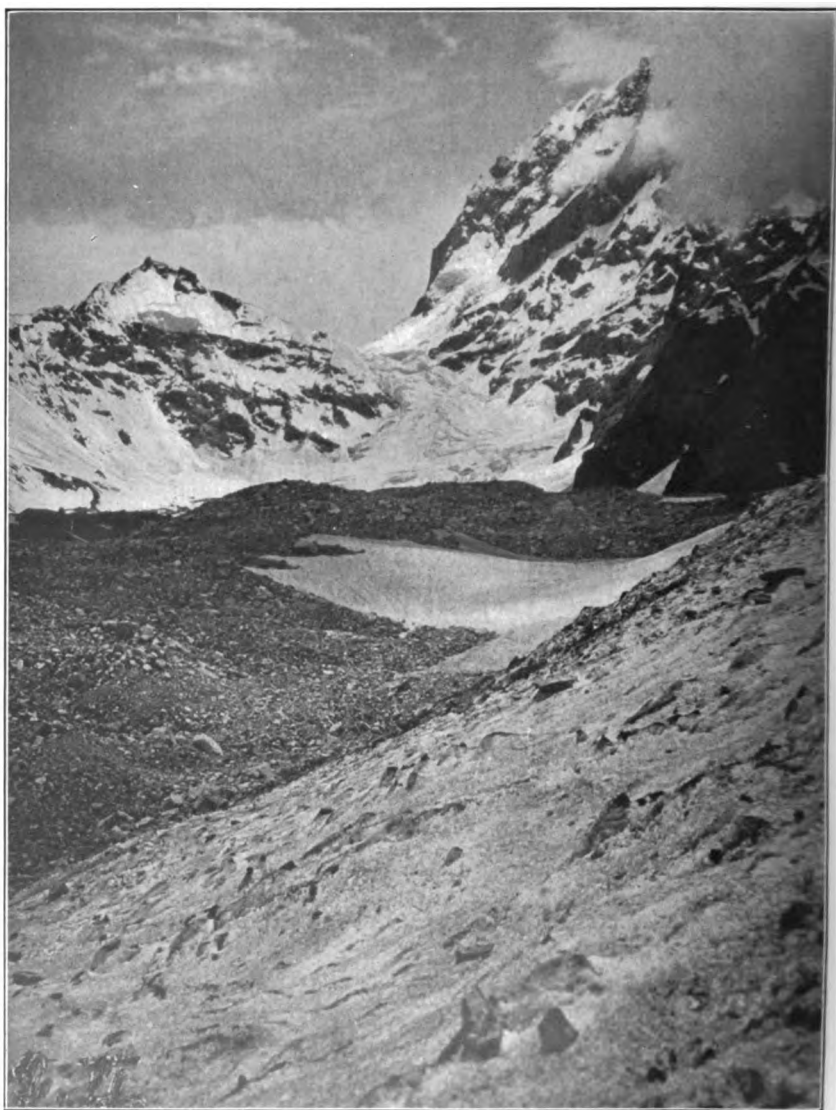
Kulhia glacier is wrongly depicted in the Survey map as coming from the S.E., whereas it comes from the N.E. We reached the pass in seven hours' fast walking from Mana, an additional three-quarters of an hour being spent in halts. We thought that the pass must be about 16,000 ft. and found that it leads over into the valley of the Bhyundar Khanta (Smyth's Pass). It is very easy.

Later on we spent ten days in exploring the ice valleys of Satopant and Bhagat Karak. We discovered glacier passes at the heads of these two valleys and crossed the passes sufficiently far to justify us in assuming that there were no difficulties on the far sides. The Satopant Pass leads into a valley in the Kedarnath cluster of valleys and the Bhagat Karak Pass gives access to the Gangotri glacier and Gangotri. These two passes therefore link up Badrinath with Kedarnath and Gangotri. And at these three places are the three sacred sources of the Ganges. Unfortunately these passes are too formidable to be crossed by the pilgrims who visit Badrinath, Kedarnath and Gangotri. The ridge separating the upper Satopant valley from the upper Bhagat Karak valley seems to be inaccurately mapped. The Gangotri glacier does not rise between the upper courses of the Satopant and Bhagat Karak glaciers, but flows from the E. base of Badrinath Peaks. The huge snow mountain so conspicuous from the upper reaches of the Bhagat Karak glacier is the same mountain that is equally conspicuous from the head of the Satopant glacier. It is the highest summit of Badrinath Peaks and is over 23,000 ft. Most of the mountains surrounding the Satopant and Bhagat Karak valleys are ice peaks with superb shapes, and seemed to be utterly inaccessible.

The monsoon broke at Badrinath and Mana on July 16. On the 17th we left Mana with fifteen Bhotias and camped on the right bank of the Kulhia glacier. Next day we crossed the pass we had discovered on June 28, and camped above the Thiapap glacier at about 14,000 ft. Then ensued four days and three nights of continuous rain. Snow fell as low as 15,000 ft. When at last the weather had improved a little we moved camp down to the right bank of the Thiapap glacier. From here we crossed the Bhyundar Khanta (Smyth's Pass), which took us over on to the E. side of the Kamet watershed.

On this side of the Kamet group we spent a few weeks in the rains. On the Niti side they generally take the form of mist. The time was spent in exploring and photographing on and around the Raikana glacier and its two great tributary glaciers. Justin Blanc with two of our Bhotias visited the easy pass mentioned by Longstaff. It leads into Tibet without difficulty. He also discovered an easy pass into the valley N. of the Raikana valley which is parallel to it. Another equally unimportant pass was discovered by Pierre with two Bhotias. I also ascended various points for photography with two Bhotias.

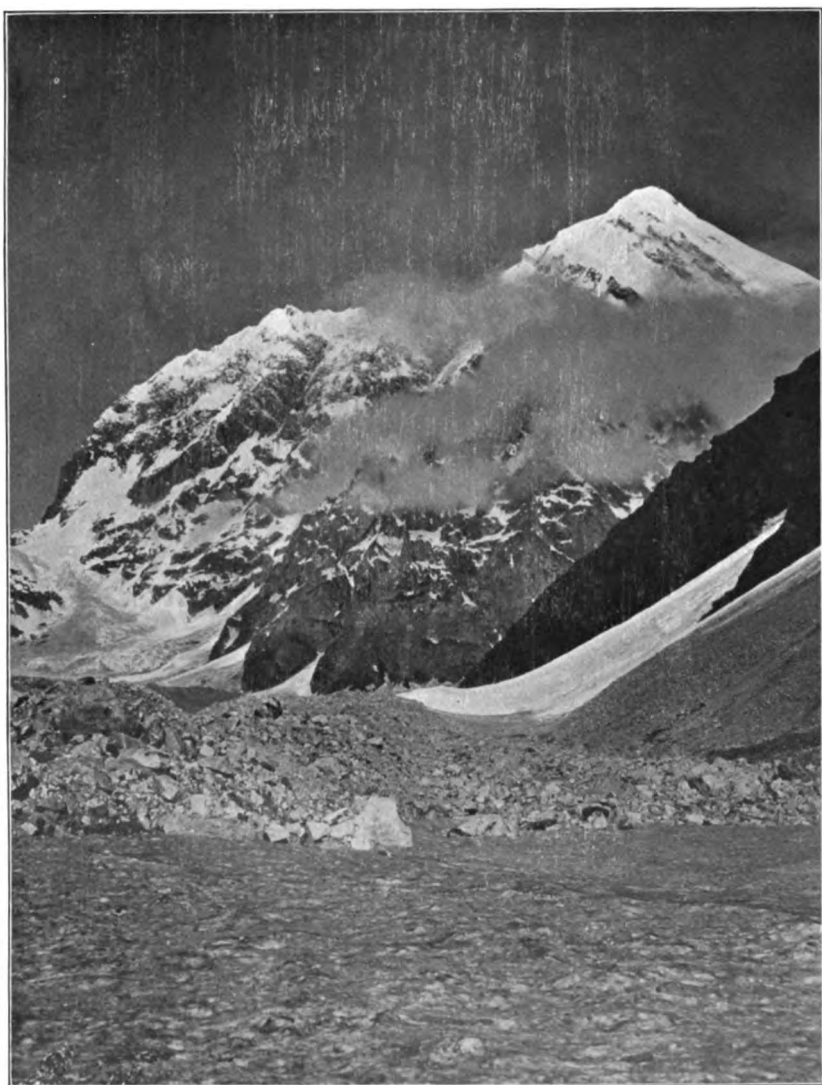
For four of the passes that we discovered the names Satopant,



C. F. Meade, photo.

Swan Electric Engraving Co., Ltd.

SATOPANT PASS,
And shoulder of Badrinath



C. F. Meade. photo.

Swan Electric Engraving Co., Ltd.

SATOPANT PASS and BADRINATH PEAK,
From the Satopant Glacier.

Bhagat Karak, Kulhia and Raikana seem obviously appropriate. For the great tributary glacier which flows down between the Kamet and Raikana glaciers I suggest the name Strachey. It was explored by Pierre Blanc and flows from the foot of the 24,170-ft. peak triangulated by Strachey.

Throughout the season we all of us felt the altitude more or less when above 18,000 ft. Above 20,000 ft. all suffered. During all the summer that I was employing the Bhotias I never had any reason to complain of them. We were all delighted to have them with us. They were very intelligent and always willing and cheerful. I supplied them with thick clothes and boots, which they took to at once and very kindly. They are perfect cragsmen and would very soon pick up the rudiments of snowcraft. Their powers of endurance are remarkable and they did very well at high altitudes, but the question of how to feed Hindu coolies at high altitudes where they are unable to cook for themselves is a difficult one.

We left Niti on August 13 and sailed from Bombay on September 7. I should like to record that the kind assistance lavished on us by Pandit Bidya Datt Dimri, European panda at Badrinath, was quite invaluable.

I should add that in 1910 we had our first view of Kamet during a flying visit to British Garhwal. We then discovered from the pass at the head of the Khaiam glacier that the upper course of the Ghastole glacier lay between us and Kamet. This glacier is about twice the length given it by the maps and is not straight but describes a right angle in its descent to Ghastole. Thus it provides a highway to the western base of Kamet. In the same year we also ascended a triangulated peak of 20,600 ft. It is a lower summit on the same ridge as the 21,000-ft. Balbala. I suggest for it the name of Balbala West. It can be seen for a long way down the valley of the Mana Pass.

DIARY OF EXPEDITIONS IN THE HIMALAYA MADE BY
MAJOR THE HON. C. G. BRUCE, CAPTAIN O. E. TODD,
HEINRICH FUHRER (GUIDE OF MEYRINGEN), AND
OTHERS.

[The district described lies due N. of Simla, on the main chain of the Himalaya, roughly half way between Kashmir and Kumaon. See Sheets 46 and 47 of the Indian Atlas, 4 miles to an inch. It has not previously been visited by climbers. Major Bruce writes: 'The average traveller in Lahoul sees nothing of it; the