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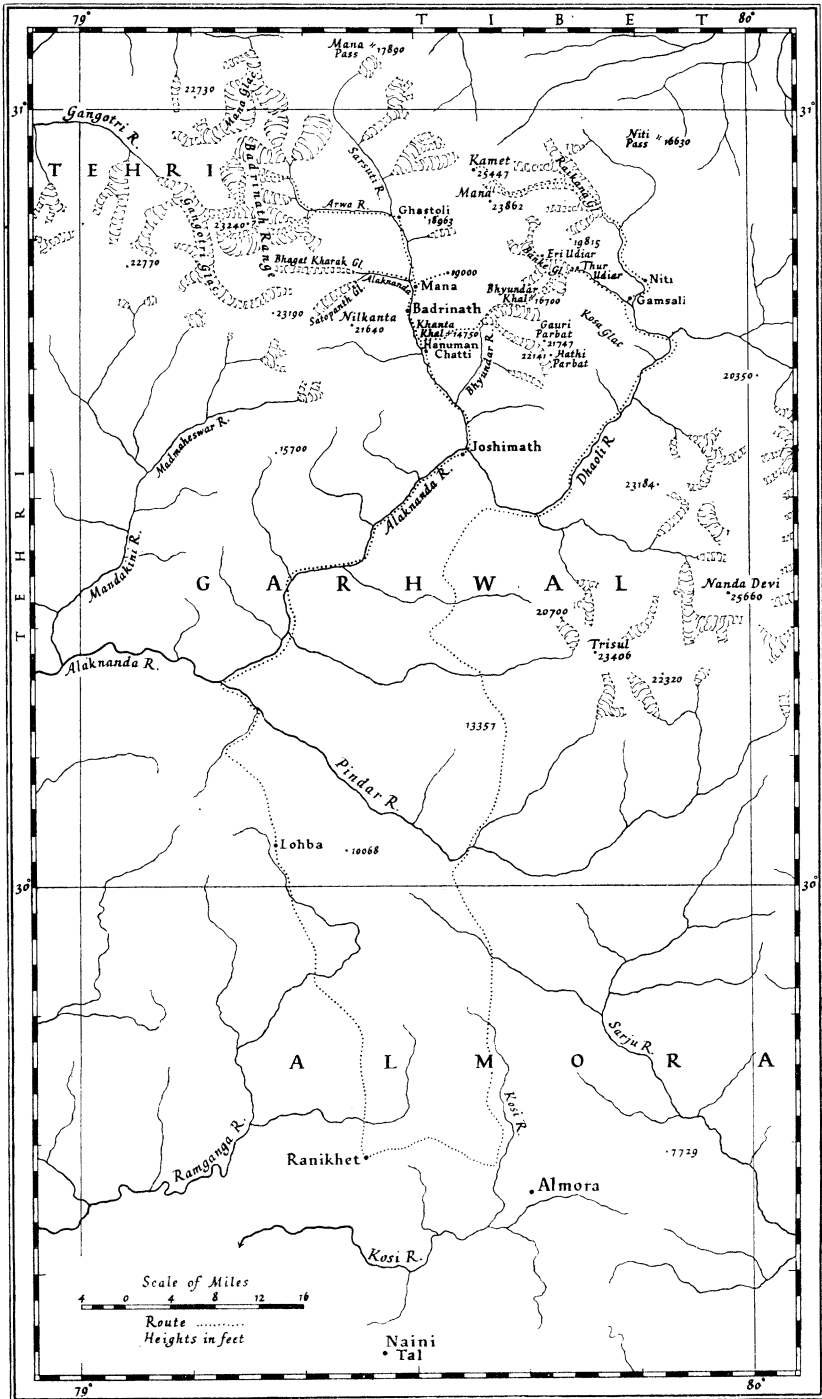
EXPLORATIONS IN GARHWAL AROUND KAMET: *A paper read at the Evening Meeting of the Society on 2 November 1931, by*

F. S. SMYTHE

THE personnel of the Kamet expedition consisted of Wing-Commander E. B. Beauman, R.A.F.; Captain E. St. J. Birnie, Adjutant to His Excellency the Governor of Bengal's Bodyguard, Transport Officer to the Expedition; Dr. C. R. Greene, Medical Officer; Mr. R. L. Holdsworth, Mr. E. E. Shipton, and myself. The expedition had two main objects: the ascent of Kamet, 25,447 feet, and explorations in the Badrinath Range, to the west of Kamet, which forms the watershed of the Alaknanda and Gangotri rivers, the two parent tributaries of the Ganges. As a description of the ascent of Kamet would have more mountaineering than topographical interest, I propose to deal here only with the second object of the expedition.

It is strange that Garhwal should be so seldom visited by explorers and mountaineers, for but ten days' marching suffices to take the traveller from the hill stations of Ranikhet or Almora to the fringe of little-explored ranges. Further, the explorer in Garhwal experiences a delightful climate; severe snowstorms are almost unknown during the summer months on the higher peaks, whilst the foothills relieve the monsoon clouds of much of their moisture, so that it is possible to climb in comfort during the height of the monsoon in northern Garhwal. The main Himalayan chain, which includes Nanda Devi and Trisul, should however be avoided during this season. The farther north the traveller proceeds the better is the weather. At Badrinath it is said only to rain for a week or ten days, whilst near the Tibetan frontier fine weather is the rule, and only the strongest bursts of the monsoon penetrate to the northern end of the Badrinath range and the Mana Pass. Another factor enters to diminish the strength of the monsoon in northern Garhwal, and that is the shearing effect of the dry Tibetan westerly winds.

Apart from the excellence of its climate Garhwal is unparalleled in my experience for its combination of fertile beauty and wild grandeur. As Dr. T. G. Longstaff wrote: "It is almost the only part of the Himalaya that can be compared with the Alps." It is indeed, like the Alps, built on a huge scale; it is inhabited by people professing a Hindu religion in its lower valleys and by nomadic Bhotias in its upper valleys whose religion alternates between



The approaches to Kamet

Hinduism and Buddhism according to which side of the Tibetan frontier they happen to find themselves. An additional charm is lent to Garhwal by the association of its peaks and glaciers with Hindu mysticism, mythology, and religion. Its two principal rivers, the Dhaoli which drains the glaciers to the east of Kamet and the Alaknanda which drains the glaciers to the west of Kamet and those on the eastern side of the Badrinath range, unite to form the Ganges. The Alaknanda is regarded by Hindus as actually forming the source of the Ganges, and, because of this, some 50,000 pilgrims flock annually to Badrinath to pay their respects to the snows whence issue the waters of that river which they believe to be associated with Siva and Vishnu. It was of these snows that the Hindu scribe wrote:

“He who thinks of Himachal [the Himalayan snows], though he should not behold him, is greater than he who performs all worship in Kashi [Benares]. And he who thinks on Himachal shall have pardon for all sins; and all things that die on Himachal, and all things that in dying think of his snows, are freed from sin. In a hundred ages of the Gods I could not tell thee of the glories of Himachal, where Siva lived and where the Ganges falls from the foot of Vishnu like the slender thread of a lotus flower.”

What mapping has been so far accomplished of the Badrinath Range, while giving a fair idea of general directions, is not in keeping with the other excellent work done by both Indian and European surveyors in Garhwal. The Gangotri glacier, about 25 miles long, appears never to have been visited since an enterprising officer of “The Company” trod its lower portion over a hundred years ago. It is however only fair to add that I have not at my disposal the records of the Indian Survey dealing with this district. In 1913 however Mr. C. F. Meade visited the Bhagat Kharak and Satopanth glaciers. Had he had more time at his disposal he might have forced a pass from the former glacier over the watershed of the Alaknanda and Gangotri rivers to the Gangotri glacier, thereby accomplishing the first crossing of this range. The Bhagat Kharak and Satopanth glaciers form the joint source of the Alaknanda river.

After descending from Kamet we arrived at a camping ground near the village of Gamsali in the Dhaoli Valley, where we rested two days to enable us to recoup our energies after a somewhat strenuous time at high altitudes, reorganize our portorage, and make arrangements for sending our Sirdar Lewa, who had been seriously frostbitten on Kamet, to the hospital at Joshimath. As regards portorage it is perhaps interesting to note that one of the objects of the expedition was to cut down the number of porters to the minimum in order that the expedition could live on the country. This was achieved by excluding rigorously unessentials as far as possible. Actually, we never employed more than seventy porters, and these included nine men carrying unessentials in the form of cinematographic and photographic apparatus.

En route to Gamsali considerable difficulty in crossing the Dhaoli river above Niti was experienced, and for the benefit of other Himalayan travellers it may be of interest to mention the method by which this formidable glacier torrent was crossed. In this particular instance it was possible for a man to cross higher up, but as this involved some rock climbing it was deemed advisable to get the loads across at a point lower down. In the case where it is not easily

possible to get a single man across a torrent a point must be found where the torrent curves sharply, so that the first man with a rope tied to him can be lowered down the torrent to the opposite bank. Having got a man across, a rope was fixed between large boulders. A strong V-shaped juniper root was next found. This was placed inverted over the rope and from it suspended loops of rope in which was placed the load or man. This contrivance was then pulled across the stream, the juniper offering but little frictional resistance. It was in fact a primitive form of the rope and breeches buoy by means of which shipwrecked mariners are rescued.

The vanguard of the monsoon arrived at Gamsali simultaneously with ourselves, but it was a mild, desultory affair, for the bulk of its moisture had been precipitated on the ranges of southern Garhwal and Kumaun. Indeed, the natives at Gamsali told us that they seldom experience more than a few days of bad weather, even during the height of the monsoon season.

Our next object was to force, if possible, a new pass over the range south of Kamet and between the Kamet massif and the peaks of Gauri and Hathi Parbat. Both the Meade and Longstaff expeditions had traversed the Bhyundar, 16,700 feet, and Khanta Khal, 14,750 feet, passes which had been traversed as long ago as 1862 by Colonel Edmund Smyth. The late Mr. Arnold Mumm, who was a member of Dr. Longstaff's expedition, had however noticed indications of a pass from the head of the Banke glacier system which, if practicable, would lead down to the Alaknanda valley above Mana. We decided therefore to follow this information up, and in addition see whether the Mana Peak was accessible from this side.

Leaving Gamsali on July 5 with only light luggage (the heavy luggage was sent round by the lower route *via* Joshimath to Mana) we ascended the Banke valley to the alp known as Thur Udiar, which is just below the snout of moraine-covered Banke glacier. The following day we pushed on to Dr. Longstaff's camping ground at Eri Udiar (Cold Cave). On July 7 Holdsworth and Shipton attempted to climb a fine rock and ice-peak 19,815 feet high, rising directly above Eri Udiar. They were unsuccessful, and had to retreat owing to lack of time 300 feet from the top. The following day Shipton and a Darjeeling porter, Nima, returned to the attack. This time Shipton was successful and was able to enjoy an excellent view of the upper part of the Banke glacier. The same day that this was accomplished Beauman and Greene explored the head of the Banke glacier. The topography of the Banke glacier, its tributary glaciers and neighbouring ridges, did not correspond to the map, so they made a rough sketch-map by means of photographs and prismatic compass bearings. Unfortunately there was no possibility of forcing a pass over the range, for the head of the Banke glacier is enclosed by a ridge, the face of which is excessively steep and plastered in hanging glaciers. The locality was also decidedly dangerous owing to the great ice and snow avalanches that the warm monsoon airs were peeling from every mountain-side. There did not appear either any possibility of climbing the Mana Peak from this direction; its southern ridge is very long and both difficult and dangerous to approach, whilst its south-eastern face is quite impracticable. Thus we were forced to cross the easy passes previously mentioned, and descend into the Alaknanda valley at Hanuman Chatti. Yet if no pioneering work was possible we were rewarded in other



Bhyundar valley



Looking down Glacier 6 from 19,500-foot peak, climbed 18 July 1931

ways. The Bhyundar valley, along the upper part of which we had to pass, is richer in flora than any Alpine valley I have ever seen. The hillsides were snowy with anemones, like the narcissus fields about the Lake of Geneva. There were countless potentillas, yellow nomicharis, kingcups with single and double flowers, the beautiful blue Himalayan poppy, geraniums of two kinds, forget-me-nots, pale blue borage, mauve polemonium, crimson orchids, rosy-coloured cyripedium, dwarf larkspur, and clumps of great purple asters. Holdsworth, our botanist, discovered no fewer than ten varieties of Alpine primula, among which were the tiny stemlets of *primula reptans* and *primula denticulata*, *primula involuceata*, and *primula androsace*. Peaks unnamed and unclimbed stand watch and ward over this Eden, greatest among them Gauri Parbat, the Brilliant mountain, to the north of which we noted a well-defined gap which, if practicable, would lead over the range to the Kosa glacier. Dr. Longstaff was told by the natives that there was no practicable route down the Bhyundar valley to its confluence with the Alaknanda valley above Joshimath, but now there is a good path, frequently used by shepherds and their flocks. For us however it was more convenient to traverse the Khanta Khal Pass, 14,750 feet. This route, since it was traversed by Dr. Longstaff, has now fallen into disuse, and we experienced some difficulty in descending into the Alaknanda valley owing to the dense vegetation through which we had to force our way.

At Hanuman Chatti we found ourselves on the pilgrim route to Badrinath, a route strongly impregnated with the odour of sanctity. At Badrinath we were received by the High Priest, the Rawal Sahib, and garlanded with flowers. Much interest was shown over our ascent of Kamet, and we were asked whether we had seen England from the top. This was not the first time we had been asked this question, and as an instance of how a tradition may originate it is perhaps interesting to mention that when Dr. Longstaff climbed Trisul in 1907 the Gurkha soldier, Karbir, who accompanied him and his guides to the summit, was asked, on their descent, by the villagers what view they had seen. Being of a somewhat inventive turn of mind the Gurkha replied with grave face that he had made out the city of Bareilly and, beyond that, Bombay and the Black Water (the ocean), and beyond that, Wilayat (England), and he knew it was England because he had been there. Thus it has come about that all the villagers in northern Garhwal now believe that one has only to climb a high mountain in order to see England from the top. Another curious tradition was that on the summit of Kamet is a palace of pure gold tenanted by a powerful god.

We arrived at Mana on July 12, being greeted by the whole village with the village band and the local idol. Mana is a Bhotia village, whereas the inhabitants of Badrinath, which is but 2 miles away, are Hindus. The Bhotias enjoy a smoke by the simple expedient of digging two small holes in the ground, boring a tunnel between them, filling one hole with tobacco, lighting it, and sucking energetically at the other hole. At Mana, also, we witnessed the blessing of the sheep before being sent up to the upper pastures, a ceremony accompanied by much drum beating. Two days were spent in resting and reorganizing our transport. The Gamsali and Niti men were dismissed and Mana Bhotias recruited in their stead. In our main object, which was the

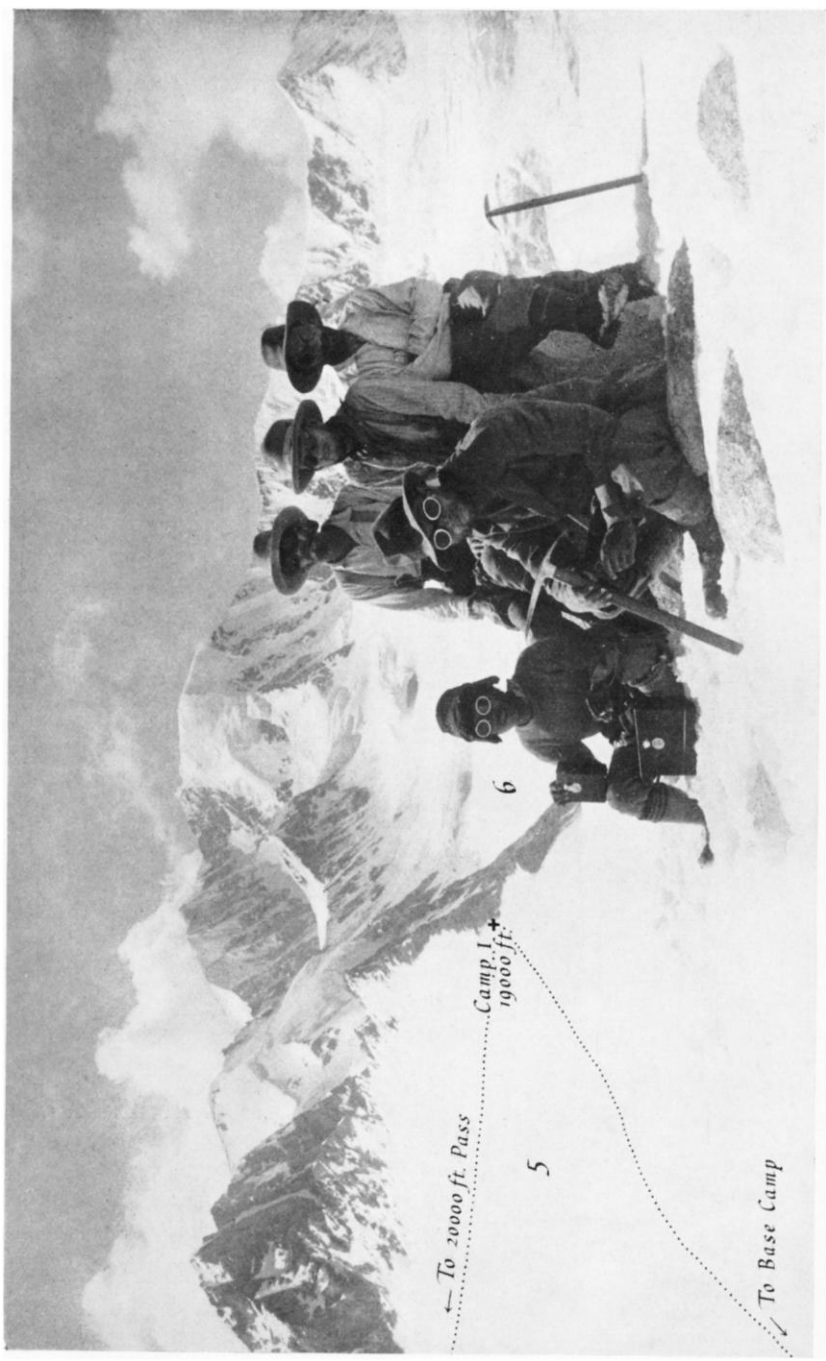
crossing of the Badrinath range, there were two possibilities. We might ascend the Alaknanda valley and the Bhagat Kharak glacier and force a pass across the range from the head of the glacier; the second possibility was to ascend the Arwa valley, which is the next valley to the north of the Alaknanda valley and runs parallel to it. The sketchy manner in which this valley and its surrounding ridges is delineated on the map suggested that little or nothing was known about it. Its most important feature appeared to be a glacier about 12 miles long, which filled it to within 3 miles of its junction with the main Sarsuti valley, which leads up from Badrinath and Mana to the Mana Pass and Tibet. The only information we could obtain about the Arwa valley was that one Piggott or Biggott had visited it about thirty years previously. Also its lower portions are used for grazing the village flocks.

On July 15 we left Mana and marched up the Sarsuti valley, following the trade route to the Niti Pass as far as Ghastoli. Next day we entered the mouth of the Arwa valley and found ourselves on grassy slopes gay with yellow and red potentillas and other flowers. Two miles from its junction with the Sarsuti valley the Arwa valley is almost blocked by a great terminal moraine. This, at first sight, appears to be the terminal moraine of a main glacier filling the valley. Actually however it is the terminal moraine of a side glacier debouching from the south into the valley. Traversing beneath this moraine was a risky business, as boulders were constantly falling from the snout of the glacier, hundreds of feet above. Having passed it we were not surprised to find that the 12-mile-long glacier marked on the map was non-existent and that the valley continued for another 6 miles without a glacier. The fact that on the eastern side of the Sarsuti valley there is a measured point of 18,963 feet opposite the Arwa valley suggests that the native surveyors, instead of ascending the Arwa valley, merely observed it from this point, and looking up it not unnaturally mistook this terminal moraine for the terminal moraine of a glacier filling the upper portion of the valley. This side glacier appears to be advancing. An advance of only 200 yards would suffice to dam the Arwa river, and as the valley is almost flat for 3 miles above this terminal moraine a dam might result in the formation of a large lake. Should the dam afterwards burst, disaster would overtake villages in the Alaknanda valley. The progress of this side glacier should be carefully observed.

We camped at about 14,000 feet near the highest juniper bushes. Next day we continued on up the valley, noting as we did so three glaciers of considerable size debouching into the valley from the south. Camp was pitched near the point where the main Arwa valley forks into two glacier-filled valleys. The branch (2) running in a south-westerly direction contains much rock coloured by iron; the branch running in a north-westerly direction branches into three glaciers (4, 5, and 6) of considerable size which themselves branch off into other glaciers. In the map the frontier of British Garhwal and Tehri Garhwal is marked as running along the range north of the Arwa valley in an east-south-east west-north-west direction. In reality however there is no main ridge at all, but a confused jumble of ranges and glaciers. As our principal object was to cross the watershed and descend to the Gangotri glacier, it was our first duty to discover which of the many ridges before us formed the actual watershed. The Base Camp was pitched at about 16,000 feet. On the



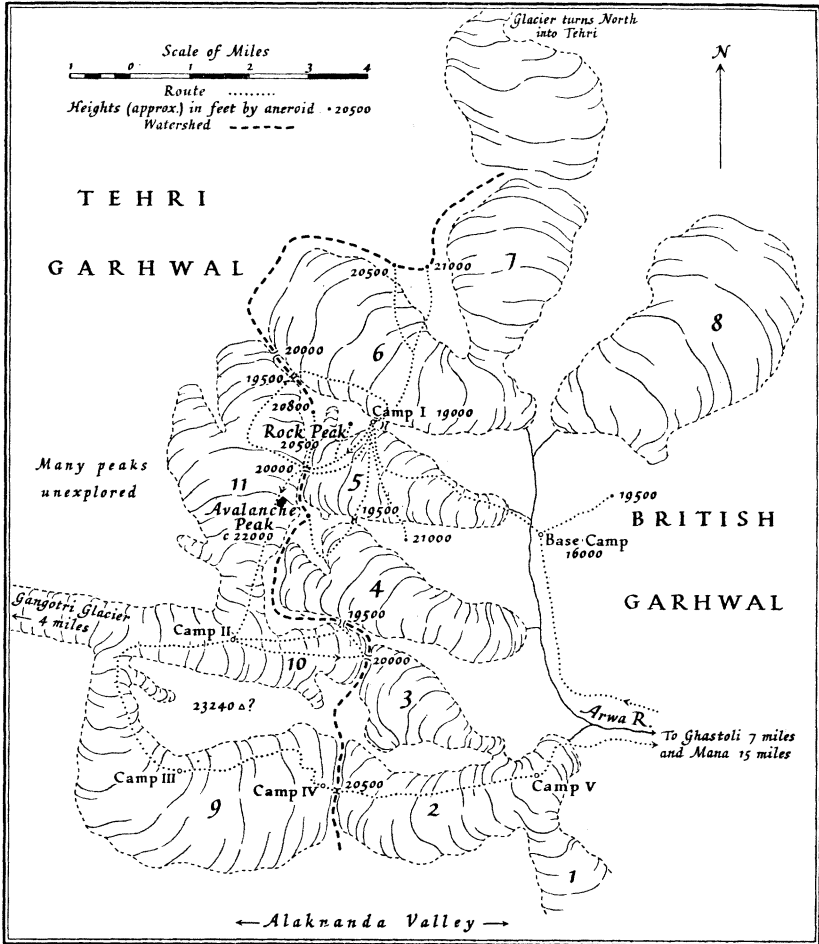
Looking west from 19,500-foot peak, climbed July 18; Avalanche Peak to left



Summit of 19,000-foot peak, Arwa valley, climbed July 19

next day, July 18, Greene, Shipton, and I climbed a peak of 19,500* feet to the north-east of the camp in order to obtain a better view of the complicated district and return if possible knowing the direction of the watershed.

We were well climatized and ascended at a rate of 1500 feet an hour. We reached the summit without difficulty. So delightfully warm was it that we spent many pleasant hours there. Although we were able to observe a con-



Glaciers of the Badrinath Range: sketch by Captain E. St. J. Birnie

siderable portion of the complicated glacier system at the head of the Arwa valley it was still not possible to determine which of the many ridges before us constituted the watershed. The most promising line of exploration lay up a glacier (5) running up in a westerly direction from our camp. Running up in a north-easterly direction and coming into the valley just above our camp was a

*Heights given were determined by aneroid and are open to considerable correction; if anything I believe they are under-estimated.

glacier (8) quite 5 miles long, whilst a direct continuation of the valley in which our camp was pitched opened out into a vast snowfield (6), the ridge at the head of which might well prove to be the watershed ridge. We were evidently on the border-line of the area influenced by the monsoon and the area swept by the dry westerly Tibetan winds, and it was interesting to watch the moisture-charged clouds blown up from the south pouring over the ridges and meeting annihilation from the dry westerly winds. So well defined is this line of wind shear that the snow-line on the southern side of the Arwa valley is considerably lower and the glaciers considerably larger than on the northern side, showing that the Arwa valley forms a natural funnel for the dry westerly winds. I have seldom spent a happier day on a mountain top, and so warm was it that it was actually possible to sit in one's shirt sleeves. Many magnificent mountains from 20,000 to 23,000 feet high rose to the south of us, some of which appear totally inaccessible.

The same day that we ascended the 19,500-foot peak, Beauman, Birnie, and Holdsworth ascended the glacier (5) running up in a westerly direction to a height of about 19,000 feet, where they discovered an excellent camping site on a rock ridge separating this glacier from the great snowfield (6) we had observed. On the following day, July 19, we ascended to this site, climbing on the way a minor peak of about 19,000 feet from which we enjoyed a beautiful view and were able to observe distinct indications of a pass at the head of the glacier (5) on which our new camp (I) was pitched. On July 20, Birnie, Holdsworth, Shipton, and myself walked up the glacier and climbed a short, steep, but easy slope to the pass. Arriving on the ridge we found to our satisfaction that we were indeed on the watershed. Before us and separated from us by a steep slope only 300 feet high was a large glacier (11), running downwards in a south-westerly direction and then curving round out of sight in a westerly direction to join the main Gangotri ice-stream. It was decided that Birnie and a porter should descend to this glacier and endeavour to force their way back over the watershed by a pass which had been previously noted by Holdsworth, a pass which, if practicable, would lead them back into the great snowfield (6) north-west of our camp. Shipton and I meanwhile climbed a peak of 20,800 feet on the watershed ridge to the north-west of our pass. Unfortunately however we were able to obtain but a poor view owing to mist and snow squalls, but we were able to observe the finest peak we saw in the Badrinath range with the exception of Nilkanta—an extraordinary fang-like peak of snow and ice which rises from the ridge forming the westerly retaining wall of the glacier (11) leading downwards to the Gangotri ice-stream. We returned to camp in a heavy snowstorm, feeling somewhat anxious about Birnie, but he, with excellent mountaineering judgment, traversed his proposed pass, descended into the snowfield (6) north-west of the camp, and from it climbed up to the ridge on which was pitched the 19,000-foot camp.

Opposite to our camp and on the far side of the glacier (5) rose the finest peak in the vicinity, about 22,000 feet high.* This Shipton and I attempted to climb on July 21, but were forced to retreat by a snowstorm. The following day we returned to the attack; this time we were successful after a steep climb up snow slopes and an ice ridge. Birnie and a porter followed us the same day.

*Subsequently named Avalanche Peak.

Unfortunately, owing to mists we saw little or nothing from the top, but we obtained glimpses of what appeared to be another feasible pass across the range immediately to the south of us, which links up the glacier (10) leading down into the Gangotri glacier and glacier 4. Immediately to the south-west of this pass rose what we took to be the only triangulated peak of any magnitude in the northern end of the Badrinath range, 23,240 feet high. It is however not quite certain whether there are not higher peaks. The beautifully formed snow and ice peak we had previously noted must be at least 23,000 feet high. The descent was marred by the only mountaineering accident of the expedition. When glissading the last snow slope to the glacier I was overwhelmed by an avalanche dislodged by a companion above me and carried down over the bergschrund, with the result that I fractured a rib and was severely bruised about the body.

The following day, July 24, a snowstorm prevented any work from being done. It was now decided that in order to carry out the maximum amount of exploration and mountaineering in the limited time at our disposal we should split up into three parties. Holdsworth and Shipton were to remain at the 19,000-foot camp and continue with the exploration of the glaciers in the immediate vicinity. Beaman and Greene were to descend to Mana and ascend the Alaknanda valley and note any possibility of passes existing from the head of the Bhagat Kharak glacier to the head of the Gangotri glacier or from the head of the Satopanth glacier to the Madmaheswar valley which drains into the Mandakini river. Birnie and I were to cross the watershed by the pass originally discovered, descend to the Gangotri glacier and endeavour to force a pass back over the watershed into the Alaknanda glacier system, preferably linking up to Beaman and Greene. This scheme depended for its success largely upon good visibility, and doubtful weather would entail retreat for a party lightly provisioned and far from its base. Unfortunately however I was forced to return before the pass had been gained, as my bruised thorax, by preventing full expansion of the lungs, did not allow of sufficient oxygen being imbibed. I was carried down in a fainting condition, but soon revived on gaining a lower altitude and was able to accompany Beaman and Greene down to Mana. Despite the snowstorm, Birnie with eight porters crossed the pass, descended some 3 or 4 miles down the glacier (11) on the eastern side and made his camp (II) not far from the junction of this glacier with the main Gangotri ice-stream.

Doubtful weather rendered the original scheme inoperative, and Birnie decided to keep near enough to the 19,000-foot camp to retreat to it should really bad weather supervene. Next day he ascended a glacier (10) leading up to an apparent pass to the north-east of the 23,240-foot peak and reconnoitred the pass, reaching the base of a very steep slope. The pass was forced up snow slopes. Descent on the far side was found to be possible but difficult, and as the pass led back into the Arwa valley and not to the Alaknanda, as he hoped, he returned. From the pass a view of several miles was obtained down the main Gangotri ice-stream. Birnie then ascended another glacier (9) leading back towards the watershed and partially reconnoitred an obvious pass at its head. Camp III was made at about 17,500 feet.

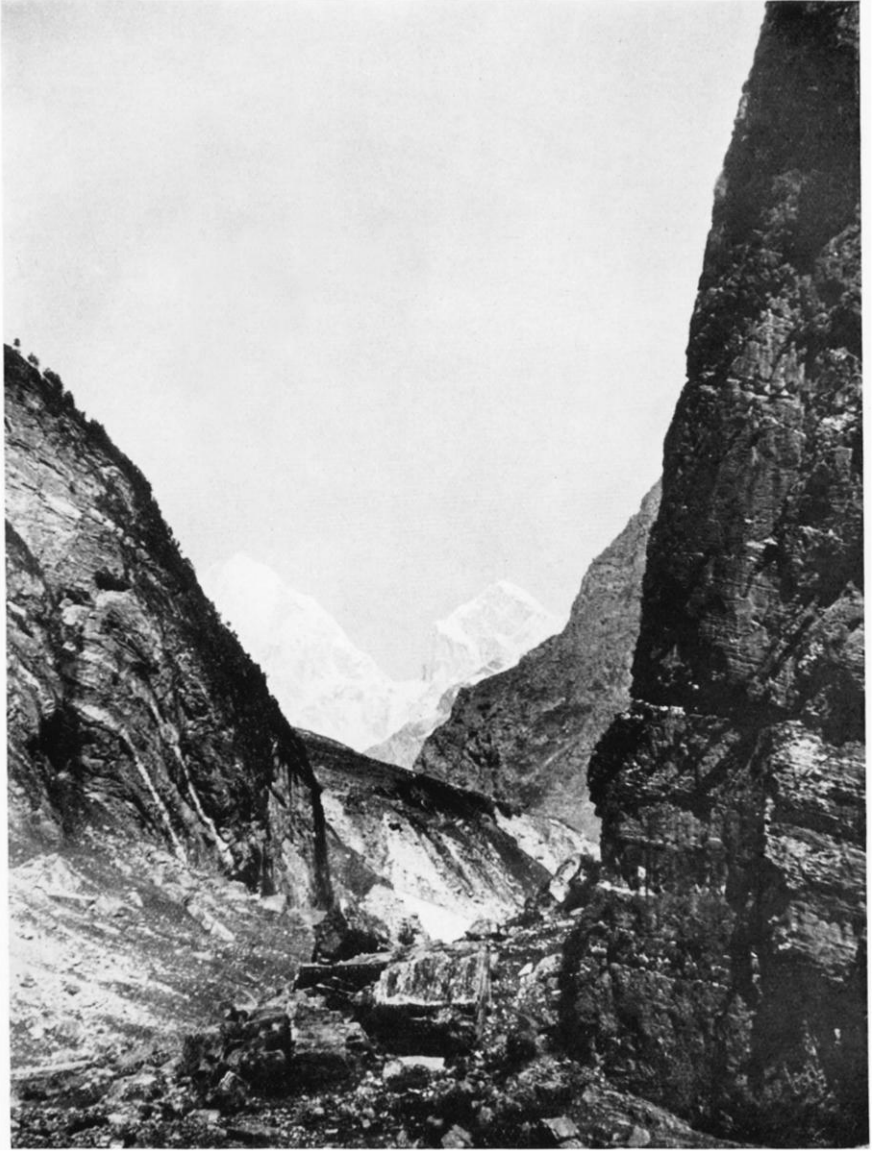
On the following day reconnoitring was continued with Gian Singh, a local

porter. After some step cutting this second pass was reached. Descent on the far side was found to be steep but practicable. Unfortunately however the pass did not lead to the Bhagat Kharak glacier as hoped, but back to a subsidiary glacier flowing into the Arwa valley. The route over this pass is liable to be overwhelmed by ice avalanches, but a safe camping site (Camp IV) was found. On the next day Birnie with the whole of his porters returned to the pass. The porters were lowered one by one through a cornice and 2000 feet of very steep snow slopes was descended by the party. After a careful descent however the easier glacier (2) was reached. Luckily there was no ice to give trouble. This pass would be possible for laden men only under good conditions, as ascent or descent on the Badrinath side of the watershed would involve too great a strain. Camp V was made at 16,700 feet. The local men showed up exceptionally well and several of them became skilled in handling the ropes and ice-axe. After a long, tedious march Birnie found himself once more in the Arwa valley on July 29, and descended to Mana. Holdsworth and Shipton on July 25 descended to the glacier (6) north of the 19,000-foot camp, and crossed it to a fine peak at the junction of two glacier bays. This they climbed by the south-east ridge, finding the rock very loose. Mist unfortunately spoiled the view from the summit. The peak is about 21,000 feet. They were however able to observe that a glacier about 12 miles long, marked on the map as flowing from east to west, north of the Arwa valley and approximately parallel to it, and draining into the Gangotri glacier, just about its termination, does not exist, its place being taken by another great glacier running not east and west but north and south, which appeared to drain into Tibet. This was an interesting discovery, and, if their brief observation were correct, the ridge separating the Mana glacier from the glacier flowing into the Gangotri glacier does not exist either. It is interesting to note that the frontier of British Garhwal and Tehri Garhwal is marked as running along the crest of the ridge, north of the Arwa valley and parallel to it, but it must bend considerably in a north-westerly direction if it is to follow the main watershed ridge.

On July 26 in good weather the party assailed a peak south-east of the 19,000-foot camp, about 20,400 feet high. An excellent view was enjoyed from the summit, particularly of the great 23,240-foot peak to the south, which from this side appears entirely impracticable. On July 27 another peak of about 21,500 feet was climbed south-east of the camp. On the following day the party descended to Mana, reaching the village on July 29. On July 30 Shipton and four porters ascended the eastern side of the Alaknanda valley, and next day climbed a peak of about 19,000 feet, whence they obtained a good view of the unexplored glaciers south-west of the Mana peak. He returned to Mana the same day. On July 28 Greene and I ascended the Alaknanda valley, intending to explore to the Satopanth glacier, and see if there was any possible pass at its head. Our project was cut short by an accident whereby one of our porters nearly lost his life in a glacier torrent—an accident which entailed the loss of our food. We were however able to visit the combined snout of the Satopanth and Bhaghat Kharak glaciers whence issues the Alaknanda river, considered by Hindus to be the source of the Ganges. It is perhaps a district worthy of the reverence which inspires thousands of Hindus who yearly make



Pass over Badriwath Range; Avalanche Peak to left



Looking up Alaknanda valley to head of Satopanth and Bhagat Kharak glaciers

a pilgrimage to Badrinath. Finest of all the peaks that guard these sacred snows is Nilkanta, a sheer pile of snow and ice, rivalling Siniolchum in its grandeur and beauty. On July 31 the expedition assembled at Badrinath and returned *via* the pilgrim route and Lohba to Ranikhet, which we reached on August 13.

It is not easy to understand why the Badrinath district is so little visited by explorers and mountaineers. Its climate is ideally suited for prolonged work and it is always possible to escape the monsoon to a large extent by keeping well to the north near the Tibetan frontier. In spite of a considerable amount of ground covered in the short time at our disposal we did little more than touch on the vast and complicated glacier system at the northern end of the Badrinath range. The Gangotri glacier, which is probably the greatest glacier in the Central Himalaya, still remains almost completely unexplored, while the peaks around it, and those of the watershed and in the immediate vicinity of Badrinath, are many of them climbable by mountaineers. Undoubtedly, when this district comes to be opened up, it will be recognized as one of the most beautiful and interesting in the Himalaya. Its flower-covered pastures and its magnificent peaks and glaciers demand a return visit.

DISCUSSION

Before the paper the PRESIDENT (Admiral Sir WILLIAM GOODENOUGH) said: The pleasure that we all experienced twelve months ago in meeting for the first time in our own hall is more than doubled when to-night we come home to it. And in that intimacy there are one or two things which Fellows of the Society will wish to know of and which I will ask our guests to bear with for a moment at the opening of the Session. There are eighty-eight proposals for new Fellowship. That is a very good number. But what is not mentioned on the proposal paper is the number that we have lost both by death and by resignation. We have to mourn the loss of such men as Sir Alexander Cobbe, who had just been appointed to the Council; of Major Chipp, who at Kew managed to combine his work there with geographical work; and of the President of the Manchester Geographical Society, Lord Stanley. There have been a large number of resignations, and I ventured to write a letter to each of the Fellows concerned suggesting that they might care to reconsider their decision or postpone it for a few years at any rate. The new buildings—the Map Room, the Library, and this Hall—have to be kept up, and they afford very great amenities to all Fellows. I think many would agree that the range of the Library is in itself comparatively cheap at the subscription of £3 a year, and in the Map Room and other parts of the House there is an immense amount of interest and pleasure to be obtained. And, most important of all, we want a very large amount of support if we wish to keep our place pre-eminent among the other nations and Geographical Societies of the world. There is one addition which we are about to make. We arranged this afternoon to buy a new projector for cinema work. No Geographical Society would be worthy of its name unless it could show films of geographical work. We propose to exhibit such geographical films on some of the spare Mondays; attendance, at any rate for the present, will be confined to Fellows. I hope that will be an additional incentive to people to come and join us.

If Mr. Smythe were not, considering his age, a fairly old Fellow of this Society I should apologize to him for having kept him so long on the platform without drawing the bolt; but as he is a Fellow I need make no apology to him at all. Mr.

Smythe is a mountaineer of many years' experience in Switzerland, and now he is an experienced mountaineer on the Himalaya. He was a member of Professor Dyrenfurth's expedition to Kangchenjunga, and he has made a most successful attack on Kamet, followed by some very admirable work round those portions of the Himalaya known as the Sacred Sources of the Ganges. He may perhaps speak to us rather from the point of view of geographical or, to be more accurate, topographical work than of mountaineering, but I am glad to hear from him that you will not be disappointed if you care for great peaks, for he has a few slides to show of Mount Kamet itself. These he will show you in the lecture which I now ask him to deliver.

Mr. Smythe then delivered the lecture printed above, and a discussion followed.

Mr. HOLDSWORTH: Perhaps Mr. Smythe has left unsaid one or two things I might say. We had a number of attempts on Kamet by previous expeditions to go by, and I think one of the reasons why the international expedition to Kangchenjunga failed was that the leader of that expedition entirely neglected the experience that had been gained by other Kangchenjunga and Mount Everest expeditions. I think that the success of our expedition in climbing Kamet was largely due to the very careful study that Frank Smythe and Bentley Beaman had given to the actual problem of Kamet and the reasons why the other expeditions had failed.

Meade was the first to discover the col which goes by his name between Kamet and the Eastern Abigamin. He went up there with Frank Lochmatter, but he went as quickly as he possibly could, the theory in those days being that the longer one stayed on a mountain above 20,000 feet the worse one felt, and that one's best chance was to do it quickly. The result was that at 23,500 feet he and this extraordinarily strong and capable Swiss guide were practically knocked out and could not move a step farther up the heavy and exhausting snow at that great height. The next expedition, the Kellas and Morshead expedition, decided to attempt acclimatization and did what we did. They went up in stages, remaining two or three days at various useful heights, and when they got to Meade's Col they were comparatively fit; but their trouble was that their transport had broken down badly owing to the lack of proper organization and lack of knowledge about the fuel difficulty. Our expedition had to thank Frank Smythe for getting over both those difficulties. We profited by the lesson learned from Meade, and we went up in slow time, spending, I think, four days at Camp II (18,400 feet) and about five days at Camp III (20,500 feet). We realized the difficulty of fuel some time before and had thought about it in considerable detail. Captain Birnie was an admirable transport officer and was able to get the last ounce out of the porters, both those who came from Darjeeling and those who came from the Central Himalaya. He had a sort of instinct for knowing when they had a legitimate "grouse" and when they were trying something on. On the whole, they are extraordinarily good people and did very well; but he was amazingly good in his grasp of the detail and the efficient way he dealt with the fuel problem. We could afford to equip with proper Alpine equipment only a certain number, I think six, of the local porters, our own ten Sherpas from Darjeeling, and two Gurkha N.C.O.s we took with us. We therefore could not make any unequipped people sleep on snow, so those who were unequipped used to sleep at Camp I, 16,500 feet, or at the Base Camp at 15,500 feet, and make themselves useful while we were climbing the mountain and working the way out by bringing up fuel and food. Juniper, which is the main source of fuel, comes to an end about where the glacier ends. It grows quite plentifully on the terminal moraine. We got juniper scrub carried by means of relays up to 20,500

feet to Camp III, so we did not have to use our spirit fuel except for Camp IV and Camp V. Another reason for not using it earlier was that we found paraffin alone would not burn in a Primus stove. That was what Morshead and Kellas discovered. A mixture of paraffin and petrol would do for a Primus. We had that, and we had Meta, and the result was that when we came down from the day's working out of the route or climbing Kamet, we could get a cup of hot tea as soon as we asked for it.

Compared with the second part of the expedition, Kamet, I felt, was more like trench warfare: a very well organized battle on preconceived lines. The whole way was known. We had to avoid mistakes that had been made by our predecessors and to keep ourselves fit. Otherwise, as far as I was concerned, it was merely a question of going where I was told. The second part of the expedition I think I really enjoyed more because it was in completely unknown country. One ought, I think, to be sympathetic to the Survey of India. Their map, of course, was inaccurate, but, considering the difficulties they had to contend with, and considering the enormous complexity of the Himalaya, to produce a map of such accuracy as they have done is really a prodigious achievement. At the same time, the map being inaccurate one had all the joy of the unknown. One never knew what one was going to see over the next ridge. I remember after we had gone 2 or 3 miles up the Arwa valley we saw it blocked by the great snout of a glacier. I was carrying my skis in the hope of putting them on when I got on to the top of the snout of the glacier, but to my great disappointment I found the glacier petered out and turned out to be one coming in from the side. About 3 miles farther on we found the valley was blocked by another glacier snout, and again I took my skis off my shoulder and said, "The hard work of walking over boulders is over: I shall now walk nicely up gentle snow-slopes." But not a bit of it, for that was also a side glacier.

What interested me most was the view I had from the last peak you saw on the screen. As Mr. Smythe said, he and Birnie were to go over the Gangotri, but Smythe, unfortunately, had to return owing to his crushed rib hurting him so much. So Shipton and I were left, and altogether we had eight days at 19,000 feet. As we had been eight weeks climbing and acclimatizing it was not at all distressing. We had fairly good appetites and slept pretty well. We climbed three mountains there in our last three days. We thought, as Birnie was going towards the south, our duty was to try to discover something on the north. A 21,000-foot peak presented itself towards the north-west of the lower glacier. We crossed the glacier and climbed up a ridge, but unfortunately, although the morning had dawned fair, it was typical monsoon weather, and woolly clouds came up and, most irritatingly, they just came round our heads as we got to the top. Instead of seeing a wonderful view to the north we could only secure the somewhat disquieting information that we were standing on a rather dangerous cornice. But we did get just a glimpse, and we saw that the glaciers at our feet and slightly to the west, instead of continuing to go west into the Gangotri, seemed to turn north. The next day was beautifully fine, and we thought we would try a peak south of our camp, so we climbed a 20,400-foot peak—quite a nice little climb with one or two enjoyable bits of rock-climbing in it, but from there the complexity of the ridges was so terrific that, although it was a beautifully clear day, we simply could not make any contribution to the topographical puzzle.

On the third and last day we sent our goods and chattels down to the Base Camp at 16,000 and dropped to the lower glacier again, crossed it and climbed a 21,500-foot peak. That was a very enjoyable climb with 200 or 300 feet of quite exciting snow on top of ice near the summit. We had the desired view north, and from there we saw Kamet due east and, north-east, we saw the Mana Pass.

I was talking just now to Dr. Longstaff and was relieved to hear confirmed the impression I got. It was very difficult to find where the actual pass was. There seemed to be a glacier flowing both ways, both into Tibet and down into India, which, according to Dr. Longstaff, is exactly what the state of things is on the Mana Pass. But most sensational of all, west of the Mana Pass and over a subsidiary ridge going north and south, there was a very impressive glacier rising in our peak and flowing north into the brown plains of Tibet, which of course is entirely different from what the map says. The map says that there was a big glacier flowing east and west, where the map marks the frontiers of the little local state of Tehri Garhwal. If what we have described is true, the Rajah of Tehri Garhwal will find himself either credited or debited with several thousand more square miles of ice and snow.

The PRESIDENT: You have heard the name of Dr. Longstaff more than once this evening, and not only this evening. I invite him to come on the platform.

Dr. T. G. LONGSTAFF: It is twenty-six years since I was first in the country of which we have heard this evening. To see these photographs and hear Mr. Smythe's lecture has been an immense pleasure to me. He has told us very little of the chief feat which his party performed, the ascent of Kamet, 25,000 feet: 1000 feet higher than Smythe's own record on the Jonsong Peak. Kamet is now the highest mountain that has been climbed to the top, though actually greater altitudes have been reached on Mount Everest. Not only that, but his party displayed the most extraordinary energy in climbing. They seemed to make nothing of climbing a 20,000-footer on any spare Saturday afternoon: they bagged about ten! I want to assure Mr. Smythe and all the members of the party that every mountaineer has the highest respect for their achievement and for the way in which they overcame difficulties without any loss of life: which means that the skill displayed was adequate. One of the fascinations of mountaineering is that if the skill displayed is not adequate you do not come back.

Now what I am going to say now is not a reflection on anything that the speakers have said, but I want to point out that the conditions now are different from what they used to be. The criticism of the Survey of India map is due to a misunderstanding: that survey was made in the seventies. It cannot be compared to the work done by the Indian Survey at the present time. I very carefully read up before I went to that part of the world the literature of the country from 1800 onwards, and I looked up the old Survey Reports. I found that the surveyors were definitely ordered not to waste time on uninhabited districts. They were to map the inhabited valleys and the villages. The old triangulation is reliable, but this map is not a topographical survey at all. It was a question of expense. They were definitely told that in uninhabited hill country they were to spend as little time as possible, and they were simply to sketch in what they could quickly see, without visiting the glacier regions. So those maps are really not comparable in any way with modern work; and they never claimed to be topographical surveys in the modern sense of the word.

Then there is one other thing I wish to say: that our predecessors in those countries, like Sir Richard and Henry Strachey in the fifties and sixties, Edmund Smythe, Drummond, and Webber of the Forest Department, and so on, even to later expeditions than that, found that the local men had the greatest terror of going into those snow regions inhabited by gods and demons. You have to go very slow with those people. If the earlier explorers had tried to force them to go with them up on to the glaciers there would have been difficulties for subsequent travellers. Bruce, Slingsby, Meade, Kellas, and others did not, as a matter of fact, force the local people; they were particularly careful when taking natives

into any place of real difficulty or danger. That policy is now bearing fruit and that policy has rendered it easier for explorers who have come afterwards to get the local men to accompany them. Fear and distrust have gradually worn off: conditions are certainly a little different now as compared with twenty-five years ago.

You heard Mr. Holdsworth express his preference for the joys of exploration, as compared with actual mountaineering. Anybody who has been to that country understands very well something of that. But the audience perhaps do not, because on no occasion has Mr. Smythe made the faintest allusion to the perfectly ghastly and horrible discomfort of mere existence, much less climbing, above 23,000 feet. Those of us who have been there will also emphasize the great achievement of Captain Birnie, who not only organized victory by accomplishing the supply problem without a hitch and without friction with the inhabitants, but himself achieved the ascent of Kamet.

The PRESIDENT: We have with us to-night the Vice-President of the Alpine Club—it is quite possible that people may know his name even better in other connections—and I will ask him to say a word or two: Mr. Amery.

The Rt. Hon. L. S. AMERY, M.P.: I am not sure in what capacity you have asked me to speak, Sir. If it is as a Member of Parliament, then I think my place would be more fittingly occupied by one of those whose majorities have reached Himalayan figures. My majority of not quite 15,000 belongs more properly to an Alpine classification. But perhaps it is—though you may not be aware of the fact, Mr. President—that I am, I think, the earliest explorer still in the ranks of the living of the particular region we have been hearing about to-night. I went all the way up the Alaknanda to its source in the year 1875. I admit when I say “went” I do not mean on my feet. I was eighteen months old and was carried, and on one occasion, owing to a stumble on the part of one of the bearers, I was jerked out of the litter and saved from ending my life in the Alaknanda by being caught by my petticoat and thrown back again. But the object of our expedition—I will not say my object—was, in fact, to do some of that survey work which Mr. Smythe and Mr. Holdsworth have criticized and which I am glad to say Dr. Longstaff has since so brilliantly vindicated. Therefore, no filial piety on my part is required to justify such sketchy work as my father’s party did up there in the early seventies.

Like every one else I have been immensely interested in the account of an expedition which did two things. First it set out in the most businesslike fashion to climb the highest mountain yet climbed to its summit. It was all clearly thought out and all done absolutely to time-table and without a single hitch. And then, having done the work, the boys indulged in a little play and scrambled up and down a dozen or so little 20,000-foot peaks and, incidentally, disentangled a certain amount of very complicated country for the benefit of topography at large, leaving the suggestion to others that there is still plenty to disentangle and plenty of fun in the way of jolly little afternoon walks. The scale of these things is always changing. We have only to read the awful doubts that beset the early parties that attempted Mont Blanc: whether it was possible for human beings to exist at heights over 12,000 feet, and all the complicated precautions taken. We think of the immense difficulties that faced the early Himalayan explorers. But now we have these lads waltzing on foot and on ski, and I suppose later on some form of light motor craft, up everything below 22,000 feet. After that even they would allow that serious climbing begins. Up to that they pick anemones and other beautiful flowers. They stroll up the summits with skis under their arms, slide down in graceful loops and curves and, modestly, say hardly anything about it when they come back. Anyhow they have shown that the world

is still full of lots of quite pleasant peaks and bypaths and opportunities for adventure.

The PRESIDENT: May I start by answering the last speaker? Mr. Amery asked in what capacity I asked him to come on the platform. I asked him as one who is a very great friend of the Society whom we are always glad to see here.

It is my most agreeable duty to thank the lecturer on your behalf and on behalf of the Society. That I do with great sincerity. Not only, Mr. Smythe, have you afforded us a most agreeable and interesting evening, but you have shown that there are problems which either yourself or other people will be able to solve in the future. Of the many true things that you have said I think the truest was when you said, "I am sorry I cannot show anything of this properly without a map." This afternoon the Council set up a small Committee with the particular object of improving the mapping of mountains, glaciers, and the like, and those who are interested in such things will have an opportunity of seeing the maps which we shortly hope to produce.

Dr. Longstaff and Mr. Amery have saved me from making any defence of the Survey of India; not that I hold any commission for them any more than for anybody else. But the map which Mr. Smythe spoke of is dated 1880, and you have heard of various reasons why, perhaps, it is not very great in detail. It is agreeable to find that despite his criticisms Mr. Smythe has left the maps which he has made in the hands of the Survey of India to complete. I think he is very wise to have done so.

What we thank Mr. Smythe for, as well as for the very interesting topographical work which he has shown us, is the astonishing beauty of some of his pictures. Anything more lovely than that picture taken by moonlight I do not think we have ever seen in this hall, and I know there is one present who may be considered to be a critic of beauty, the President of the Royal Academy. He told me just before we came here that that was what he was looking forward to, something beautiful. I am sure he is not disappointed. Will you therefore, Mr. Smythe, accept our most grateful thanks for the admirable lecture that you have given us and also accept our congratulations on having accomplished a great feat largely thanks to excellent forethought and organization?