a visit to the mountain. Our tour of 500 miles from Entebbe and back occupied eight weeks to a day. I was three weeks in reaching home from Entebbe.

I may best conclude this paper by reverting to an old custom in this Journal, and expressing my very heartfelt thanks to our guide and companion from Zermatt for his services throughout the journey and for the thoughtful care with which he looked after me in my fevers. I cannot wish anyone a better travelling companion in health or in sickness, on the march or in camp, than Moritz Inderbinnen.*

Six Months' Wandering in the Himalaya.

By T. G. LONGSTAFF.

(Read before the Alpine Club, June 11, 1906.)

I BELIEVE it is usual to commence a paper before this audience by a reference to the Honorary Secretary, and I feel that I ought not to depart from so honoured a custom. Yet I cannot say that it is with great hesitation, and after much pressing by that eminent mountaineer, that I address you to-night, because it is entirely due to my own importunity that I am here. Neither can I commence, 'Story! God bless you! I have none to tell,' because before I have finished my paper you will be hinting that it is all story and no climbing. For both these reasons I ought to be brief; and the Honorary Secretary has begged me to be brief. I regret to disappoint him. The paper is a very long one, and I have more slides than I ought to show you to-night. Furthermore I am sorry to find that I can hardly hope to make myself intelligible without a somewhat lengthy and perhaps personal preface. For the latter I ask your pardon, and for the rest your patience.

Like most mountaineers my thoughts have often turned towards the Himalaya, but what especially attracted me were the districts of Kumaon and Garhwal in the United Provinces. This region, rising in the S. directly from the great Gangetic plain, is wedged in between Nepal on the E. and a group of semi-independent hill States on the W., and is bounded on the N. by the plateau of Western Tibet. In this corner of the Himalaya is to be found mountain scenery

* I have used in this paper Sir H. Johnston's local names. I must refer readers who desire to know more of Uganda to his invaluable volumes.

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as fine as any the world can show; indeed I do not believe that the scenery of Upper Garhwal can be surpassed anywhere. The twin peaks of Nanda Devi (25,660 ft. and 24,379 ft.) are the crowning glory of these wild and intricate mountain groupings, which contain more than 50 triangulated peaks of over 20,000 feet, of which 7 exceed 23,000. These mountains are very easy to get to, and in consequence a large caravan and an expensive outfit are unnecessary.*

So far as I can ascertain the first to actually penetrate these snows was Commissioner Traill, who about 1820 crossed a high snow-pass (17,770 ft., Schlagintweit)† from the Pindari glacier over the watershed into the Milam Valley. Next, in 1855, came the brothers Schlagintweit. They crossed the pass I have just referred to, visited the Milam glaciers, and later made a brilliant attempt on Ibi Gamin, or Kamet (25,443 ft.), from the Tibetan side, spending several days camped high on the mountain and ultimately attaining a height of 22,259 ft. Some years later an altitude of 22,000 ft. was reached on the same mountain by officers of the G.T.S.‡ The Milam Valley was again visited in 1883 by T. S. Kennedy with Johann Jaun. I very much regret that I can find no record of his doings; it is quite likely that he went over much the same ground as myself in this region.§ He was followed in 1893 by Dr. Boeck, who made several pioneer expeditions on the Milam and Pindari glaciers with a Tyrolese guide, and in 1900 published a book on his experiences.

I will now ask you to turn your attention to Graham's expedition of 1883. No one who reads the short and modest description of his Garhwal trip can fail to be fired with longing to revisit the scenes of his struggles, and no one who has not been lucky enough to have been there can realise what he went through, and what a strenuous pioneer and splendid climber he must have been. We can only lament that he did not give us as detailed an account of his doings as we have since come to expect from the returning

* It may be interesting to record that during the six months of this trip my total expenditure was less than 100*l.* This includes everything except the pay of the two guides.

† This pass is still marked on the G.T.S. maps, but is shown too far to the eastward, and too near to Nanda Kot.

‡ Cf. Norman Collie's *Climbing on the Himalaya*, p. 16.

§ *Alpine Journal*, vol. xvii. p. 332. Where are these panoramas? They might add greatly to the value of the photographs I was able to obtain.

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wanderer. Transport difficulties defeated him before he reached the western base of Nanda Devi, but he climbed Mount Monal (22,516 ft.) and nearly succeeded on Dunagiri (23,184 ft.). May I be permitted to point out that the altitude of neither of these mountains, nor of any others mentioned in Graham's paper, is affected by the fact of the climber having or not having a barometer, or a dozen barometers, with him? They have been triangulated by a succession of most competent surveyors during the space of the last 90 years.

One word more before we leave the subject of the greatest Himalayan expedition that has yet been made. Twenty years ago strange ideas were prevalent even in this country on the subject of mountain-sickness, ideas which have not yet entirely disappeared. In India at that time such ideas were probably more exaggerated, and ignorance of mountaineering matters was almost universal. Furthermore, by an unreasonably severe criticism of the G.T.S., Graham had set the officials of the Survey Department against him. Thus, mainly from ignorance, most people in India refused to believe in his ascent of Kabru. A well-known Indian official of my acquaintance, who was at Darjeeling at the time of Graham's visit, says now, and said then, that he fully believed in Graham's *bona fides*, but thought he had mistaken Kabur (15,830 ft.) for Kabru (24,005 ft.), an opinion which has since been quoted by others. Now, for anyone who is a mountaineer, and has seen Kabru, it is impossible to believe that Graham, Emil Boss, and Kauffmann could make any mistake as to what peak they were on. They may have been impostors, but they could not have been mistaken; my point is that we have no tittle of evidence to show that they were either. Any climber who will carefully study Graham's paper in its entirety, especially if he knows the country at all, cannot but be struck by the strong internal evidences of truth which it bears. That he did not suffer from mountain-sickness is no proof of bad faith. That he made little pretension to scientific knowledge is no evidence that he was not a very competent mountaineer. I would add that, particularly in India, is it unwise to believe tales and rumours to the discredit of other people. To quote them is distinctly rash.

Last year my intention was to try Trisul (23,406 ft.) from the S.—it is only 60 miles from Naini Tal—and then march up into Garhwal, and, in imitation of Graham, attempt some peaks of the Nanda Devi group from the W. Failing this, there was Ibi Gamin (Kamet) and its attendant peaks to the

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northward, where I hoped the effects of the monsoon would be less marked than in the southern ranges. I put this upon record, because should I ever go there again that is the plan I should follow. I hoped to have time to go to Sikhim after the rains and attempt the second ascent of Kabru, or, at any rate, explore the head of the Yalung glacier, with a view to the practicability of this route up Kinchinjanga, as suggested by Mr. Freshfield. This part of my programme I gave up as soon as I heard that another mountaineering expedition was on its way there to try this very route.

I almost persuaded Major the Hon. C. G. Bruce, that most experienced of Himalayan mountaineers, to join me and bring some of his men. He made all preliminary arrangements for me, but unfortunately at the last moment was unable to come. Thus I was compelled to fall back upon professional assistance. My friend Cajrati most kindly allowed me the use of his guide, Alexis Brocherel, of Courmayeur; he brought with him his young brother Henri, and a better pair of men I could not have chosen. He also arranged, with the kind assistance of Mr. Bertolini, to have them looked after on their way to meet me.

Thanks to Mr. Freshfield's interest, I was very well received in India; and I should like to say at once that during the ten months I spent in the country I experienced the greatest kindness and consideration from everyone I met, my especial thanks being due to Lord Curzon, Sir James la Touche (Lieutenant-Governor of the United Provinces), and Colonel Burrard (Superintendent of the Survey).

We reached Almora on May 10. Mr. C. A. Sherring, the Deputy-Commissioner, immediately took us under his wing, and I feel that I can never be sufficiently grateful for all that he did for me then and afterwards. He himself was just starting on a tour up to Milam, in the north of his district of 6,000 square miles, and suggested that I should alter my plans, accompany him, and try Nanda Devi from the E., instead of from the W. I knew that if I did this I could only get at the eastern and lower peak (24,379 ft.), but the opportunity of travelling with the only man who knew the people and the country was too good to be missed. From the rhododendron forests of Binsar, the first march out from Almora, we obtained a fairly good view of Nanda Devi, at a distance of about 60 miles. We never saw it again until we reached the head of the Milam Valley, so deep are the valleys and so abrupt the hills of the intervening region. After we had gone a few marches up country Sherring

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received orders to prepare to go on a political mission to Western Tibet, and had to return to Naini Tal to make arrangements for it. To console me for his involuntary defection he suggested that I should accompany him, and try to climb Gurla Mandhata and Kailas near the Sacred Lakes. I very willingly fell in with his kind suggestion, though I saw that my mountaineering trip would degenerate into a walk of some thousand miles, with a little climbing thrown in every now and then.

In reference to Gurla Mandhata, I must not omit to call your attention to Webber's delightful book 'The Forests of Upper India,' in which he suggests the probability of an attempt to ascend this mountain proving successful.* Though his book was not published until 1902, it was in 1864 that he visited this part of Tibet.

Meanwhile we continued on our way to the Milam Valley without Sherring, but accompanied as far as Mansiari, the last inhabited village at this time of year, by Kharak Singh, then Tehsildar of Almora, a very pleasant companion, who was of great assistance to us. Sherring also sent with me the Kanungo of Danpur and Johar, who made all transport arrangements during this part of my trip.

I cannot dwell on our march through the foothills, but the stage from Gurgaon over the Kala Muni to Mansiari is a particularly fine one. The view of the Panch Chule range which suddenly bursts into view across the valley of the Gori when the summit of the pass is reached is of quite unearthly beauty. At Mansiari, with the kind assistance of the Tehsildar and of Kishen Singh, Rai Bahadur, the 'Pundit A. K.' of the old transfrontier survey, arrangements were made for our welfare in the Milam Valley, to which the Bhotias had not yet ascended.

After several marches through the fern-clad cliffs of the Gori defile, and up into the bare wind-swept valley of Milam, we pitched camp on May 27 near the hamlet of Ganaghar, on the right bank of the Gori, at a height of 11,100 ft. On arrival I had my first attack of mountain-sickness. It was undoubtedly due to stalking wild sheep in a puttoo (cloth) hat instead of a sola topi, and the consequent effects of the sun, though I did not realise this till I had had two more similar attacks. On May 29 we made a reconnaissance up the Pañchu glacier, this being, according to the G.T.S. maps, much the shortest route to the eastern peak of Nanda Devi.

* *Op. cit.* p. 121.

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The guides would not believe that it was impossible to reach the pass at the head of the glacier that day, but we were finally turned back late in the afternoon by very soft avalanchy snow at about 16,000 ft. (Watkin barometer.) By this time I was suffering again from headache and sickness, and I began to wonder if high ascents were possible for me, despite the fact that I had been higher than this in the Caucasus with impunity.

Two days later we again left camp with five coolies and bivouacked on the right lateral moraine of the Pańchu glacier at 14,600 ft. (W.). The work ahead was too difficult for the Bhotias, so I sent them down to Ganaghar. I had a bad headache again, and next day felt too unwell to start, but as the clouds came up before dawn, and it snowed from two to six in the afternoon, we lost little by our inaction.

We decided that the new snow was against any serious attempt at laying a high cache, so, taking our lunch with us, we left leisurely at 7 A.M. (June 2) to examine the col at the head of the glacier. Two hours over new snow under a scorching sun took us to the foot of the pass, and we commenced the ascent directly under the S.E. buttress of the eastern peak of Nanda Devi. The climbing got harder and harder as we continued to ascend. The rocks were rotten. The snow got steeper and steeper, and its condition forced us to be very cautious in choosing a line of attack. But about 1 o'clock, after a splendid finish by Alexis through a big cornice, we reached the summit of the col. My Watkin gave 17,750 ft. as the altitude. According to the G.T.S. we were on the main watershed between Garhwal and Kumaon, and the glaciers at our feet should have flowed westward round the base of Nanda Devi. But instead of this we saw that these glaciers flowed in a southerly and then in a south-easterly direction, and that the great southern ridge of Nanda Devi was still a long way off and considerably above us. The ridge on which we stood had been omitted from the map, and the mistake was not really a surprising one when the conditions under which the survey was made are considered. The map rolls two big ridges into one and omits a glacier between them, the upper portion of which we, I suppose, were the first to have seen.

Again I was suffering from severe headache and sickness, and again I blamed the altitude. But the men put it down to the sun, and to the fact that I was wearing a soft puttoo hat, and decided that I was not to be allowed out without a sola topi in future. I may add that I took their advice, and found

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that their surmise was so far correct in that I never again suffered from the latter unpleasant symptom.

Although we had no wraps, and only food enough for one meal, we decided to descend the further side of the pass and explore the valley below us. We could see that it must eventually lead us into the main Milam Valley below our base camp. I thought we could reach the tree level before dark, while the men were quite confident that we should sleep in our camp at Ganagarh.

The descent to the glacier over snow and stone slopes was steep but easy. On the way we had some grand views of Nanda Kot, opposite, and I took some photos, but my mental condition was such that they were hopeless failures. We soon got off the moraines, and held on down the wild and desolate Lwanl Valley until, at 7.15 P.M., we reached a little open maidan surrounded by juniper bushes, which supplied us with a fire of a sort; the last scraps of food were divided, and the guides retired to the ruins of a shepherd's hovel near by, while I curled up in the open near the fire. There were no inducements to stay long abed in the morning, so we roused up before daylight and continued down the Lwanl Valley, disturbing on our way a couple of musk deer over their first breakfast. We were on the left bank of the stream, and carefully refrained from crossing any of the numerous snow-bridges over on to the other side, so that, when we found the mouth of the gorge impassable, we were able by following a sheep track to reach a little pass of 12,450 ft. (W.), which led us down to Mapa, and so to our camp at Ganagarh before noon, greatly to the astonishment of our servants and coolies, who could not make out how we had come round. I was glad to see that the Watkin barometer again registered our correct height, and that therefore it was not likely to have been affected by being taken over the pass. For which, by-the-by, I suggest the name Pańchu, already bestowed on the glacier, whose stream flows past the hamlet of that name, by the Schlagintweits.

On June 5 we started again for the Lwanl valley and Nanda Devi with my shikari and six coolies, but could not get the laden men up to our former sleeping place. Again next day the coolies were very reluctant to move on, and we had to camp at Narspan Patti (13,150 ft. W., 13,404 ft. Schlagintweit). However, the situation of this little alp was very lovely, and we had the first really fine sunset of our journey. Early on the third day (June 7) we pitched our Whymper tent on the last maidan below the snout of the most northerly

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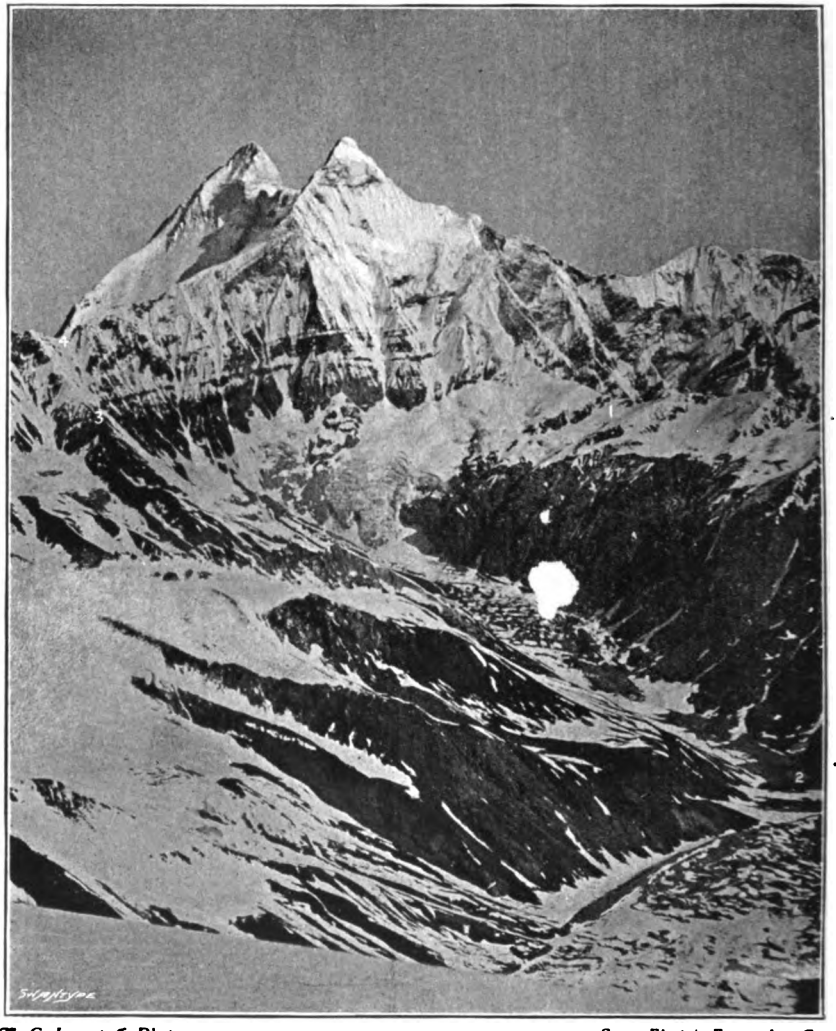
West Peak 25,660 ft.

East Peak 24,379 ft.



T. G. Longstaff, Photo. *Swan Electric Engraving Co.,*

NANDA DEVI FROM N.E. RIDGE OF NANDA KOT.

1. Panchu Pass. Panchu Valley behind this ridge.
2. Halting place of June 7, from which photo. of Nanda Kot was taken.
3. Bivouac of June 7.
4. Nanda Devi Pass, Kumaon-Garhwal water-parting. Bivouac of June 8.

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of the Lwanl glaciers. We foolishly decided to push on at noon with three coolies and the light bivouac up the glacier to the base of the great wall ahead of us. After 2½ hrs. the coolies gave up, more from superstitious fear of the deities who reside on Nanda Devi than from fatigue, and we shouldered their packs and pushed on alone. We all know that guides have an overmastering passion for following any stray foot-prints they may chance to find on a mountain, so when we came across the tracks of a snow leopard the men naturally insisted on following them. It was true that they led in the right direction, but I pointed out that we ought to pay no attention to the doings of a solitary climber. Yet I could not help noting with satisfaction that it wore crampons. I believe it even sleeps in them.

We climbed till five o'clock, in one place having to haul the packs one by one up a wall of rock. By this time we had reached an altitude of 17,400 ft. (W.), and decided to bivouac on a small shale slope. We passed a fairly comfortable night, but it was very cold. The cocoa had frozen in our flasks even during the afternoon of our climb up this sun-abandoned slope.

Next morning (June 8) we did not get off till 7.30. Our loads were very hea- the men carrying a good 50 lbs. each, while I staggered u.. er half that weight. We had a severe and wearisome climb up a long steep snow-slope, and had often to stop to take breath. The cold wind, whipping the snow up into our faces, was very trying, and it took us 8 hrs. to reach the col. The altitude of this was 19,100 ft. (W.)—only some 1,700 ft. above our bivouac of the previous night. It would seem natural to call this col the Nanda Devi Pass. It is practicable for mountaineers, and it would only take about a month to get back to the Milam Valley again by any other route. Below us was an extraordinary chaos of wind-driven cloud, half veiling the glaciers which surround the southern base of Nanda Devi. Above was the vast southern face of the great peak, its two summits connected by a saddle of more than a mile in length. From this spot the mountain strangely resembles Ushba, and the likeness must be even more striking from the W. Directly from the col rose the southern ridge of the eastern peak by which we hoped to make the ascent. Facing round to the E. the gaze plunged down to the confused glaciers of the Lwanl Valley, bounded by the northern face of the Pindari ridge, which culminates in the enormous snow-draped cliffs of Nanda Kot.

We had the greatest difficulty in making a tent platform;

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the lower side had to be built up for a height of 3 ft., and the slope of disintegrated rock was frozen hard. The night was excessively cold. My boots froze, although I put them under my head. The primus stove was leaking badly, and how the men made tea next morning I cannot understand. Some that I spilt on the floor of the tent froze almost immediately. Two of my toes showed signs of frost-bite after I had got my boots on, and I had to begin that painful process all over again. Owing to these numerous delays it was not until sunrise (June 9) that we finally started. We took provisions and all our spare wraps, but left the tent and sleeping bags behind. The climbing was sufficiently difficult to make us go slowly. We worked up and over a succession of steep and rotten gendarmes, over which it would have been difficult to carry heavy loads.

After about 3 hrs. of this we got on to a narrow but comparatively level and easy part of the ridge, with our first uninterrupted view of the work before us. I think it was about 10 o'clock that the utter impossibility of reaching the summit that day was borne in upon me. I took out the Watkin barometer and found that the altitude was only 19,750 ft.* The photographs will show you what the rest of the mountain was like much better than I can tell you. The men were quite willing to go on, but agreed that at least one and probably two nights in the snow would be necessary. I had come out for pleasure and did not wish to get frost-bitten; also it did not seem to me by any means certain that the ascent was practicable. Anyhow I wouldn't face it, and decided on an immediate retreat. We could see the Pindari glacier over the ridge to the S.E., and had a wonderful view of Nanda Kot as we turned to descend. We scrambled back to our bivouac as fast as we could go, packed up, and started down the great snow-slope which we had so laboriously ascended the day before. Our old steps were still quite serviceable, and as the snow was in very good condition we were soon able to turn and descend face outwards. Arrived at the bottom of the steep part of the slope we decided that a glissade of some 2,000 ft. was practicable, and would be much quicker than a descent by the rocks. I thought that glissade

* Then, as always, I gave the barometer ½ min. instead of the regulation 1 min. in which to 'settle.' Hence all my readings are presumably too high, that is to say would give too low a height above sea-level. Taking into consideration Schlagintweit's height (13,404 ft.) for Narspan Patti, I might add 250 ft. to all the altitudes I measured from this valley.

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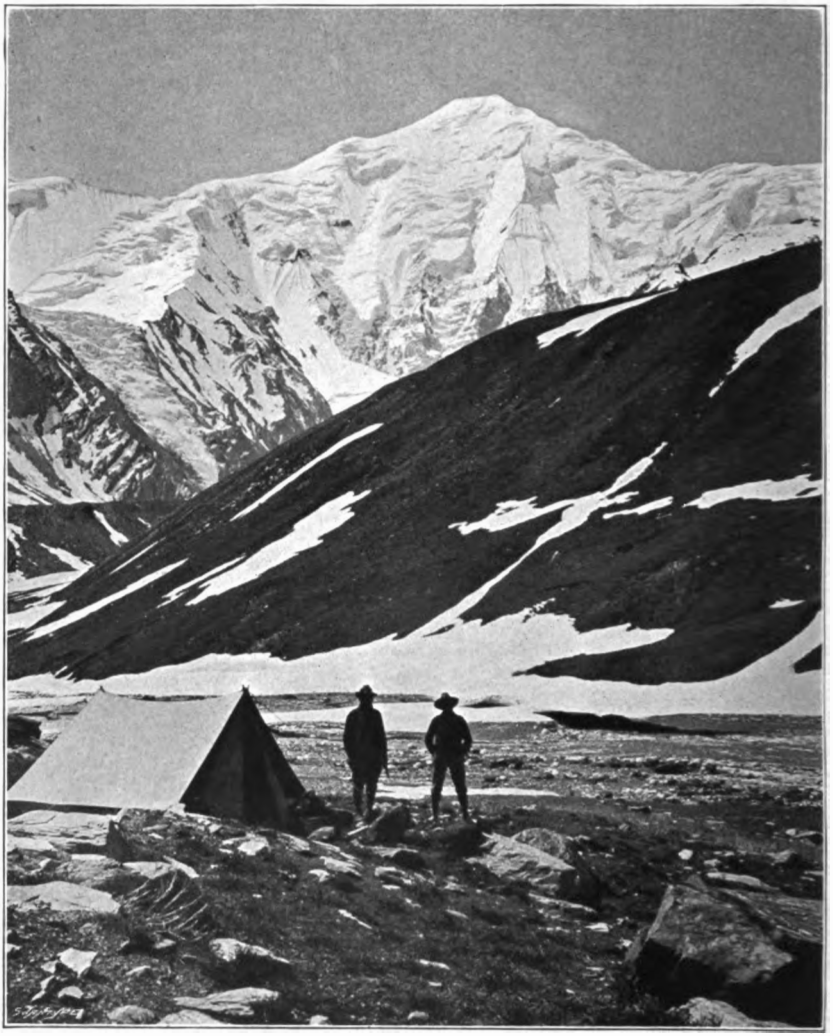

T. G. Longstaff, Photo. *Swan Electric Engraving Co.,*

NANDA KOT FROM THE NORTH.

Bivouac of June 10 was at the level of the top of the cliffs to L. of plate. N.E. ridge struck at lowest depression, ¾in. from L. edge of plate, and followed to what looks like a boss of snow on the sky-line. This ridge is much steeper than appears from the photo. The L. extremity of the summit ridge is probably higher than the R

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would never end. But by this means we reached our camp before it was dark. Henri, ever tireless, ran on ahead to warn the coolies, and late in the evening we had shifted everything about 2 miles down to Narspan Patti (Watkin again 13,150 ft.), so as to lose no time in attacking Nanda Kot, which was our next objective.

The Whymper tent seemed like a palace, and we slept like kings—I will not say like emperors. June 10 broke gloriously fine; we crossed the stream by a snow-bridge to the south side of the valley at noon with five coolies, and mounted rapidly up stone and snow slopes directly towards the summit of Nanda Kot for 3 hrs., when we reached an altitude of 16,300 ft. (Watkin). It had already been snowing for nearly 2 hrs. and there was no good place to bivouac; but it looked worse ahead. So we sent the coolies down and pitched our Mummery tent where we were.

Next day we started off at 3.45. The night had been fine, and therefore cold, and my toes needed much painful beating to keep up the circulation; the new snow was very powdery, but there was only about 3 inches of it. A long steep snow climb took us up to the N.E. ridge at an altitude of 19,800 ft. (W.) in 5 hrs. A sea of snowy mountains—those of Byaṅs, Chaudaṅs, and Dharma—greeted us in the E., while the great peak of Badrinath stood up over the Nanda Devi pass far away in Garhwal. After a very short halt we continued up the narrow N.E. ridge of the peak, the snow-slopes on both sides falling away more and more steeply. The summit was well in sight, and I was feeling well and confident of success. But as the ridge got steeper and narrower the snow got worse, and we could not get off on to a comparatively easy shelf which now lay far below us on the S.E. At about noon Alexis suddenly stopped. He said it was absolutely unsafe to go on. Both Henri and I agreed that the risk of starting an avalanche was too great to be faced. There was nothing for it but to descend the ridge to the point where we had first struck it, and make our way up the shelf I have mentioned. The summit is 22,530 ft., and I suppose we must have got to over 21,000, but I did not read the barometer here. We did not regain our starting-point (19,800 ft.) till 1 P.M. and I felt too tired to start over again. It would certainly have been possible, because we could have descended the greater part of the way to our bivouac by moonlight. As it was we reached our bivouac at 4 o'clock, and after an hour's rest packed the things down to camp at Narspan Patti.

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We reached our main camp in the Milam Valley, which we had ordered down to Burphu, next day (June 12), and the coolies got in the same evening. On the way I shot a Himalayan vulture measuring 8ft. 8in. across the wings. Many Bhotias, with their rice-laden sheep, were now passing up the valley to their summer quarters. From some newspapers kindly sent up by Miss Turner, the missionary at Mansiari, we learned the six-weeks-old news of the Battle of the Sea of Japan.

On June 15, ordering our camp down the valley to Baughdiar, we again entered the Lwanl Valley, but this time by way of Martoli, and, following the S. bank of the stream for a few miles, turned up into the Shalang Valley. We took only the Mummery tent and four coolies. We meant to try Nanda Kot again from the S., or, failing that, to cross over into the head of the Ponting Valley. However, this is to the Bhotias a very terrible glen, abandoned of the gods and inhabited by many devils; to appease the latter it is apparently necessary to sit down frequently and smoke. It is also necessary to kindle a small fire each time the common pipe has to be lighted. Hence we were compelled to camp at about 12,300 ft. (11,800 ft. W.).

Starting next morning at 7.30 we had some fine glimpses of Shalang Peak, but never a sight of the S.E. face of Nanda Kot, which remained obstinately hidden in clouds. Crossing some curious moraines and the broad Shalang glacier, we reached at 1 o'clock a mossy patch of stones near a big boulder. A light drizzle of snow was falling, obscuring the view in every direction, and wetting our clothes and wood. The altitude was 15,350 ft. (W.), and our coolies never waited to be told a second time that they might run off.

The snow lasted till 6 o'clock next morning, but only a few inches was left lying on the ground. Gradually the sun dispersed the mist, and we dried our wet things. We had very little hope of the peak, but went on up the glacier for a couple of hours, carrying everything with us. At about 10 o'clock we found a suitable place for another bivouac, deposited our packs, and examined the head of the glacier basin we were now in. We decided that, as we could obtain no satisfactory view of our old enemy Nanda Kot, we would push over the Ponting Pass on the morrow. Our altitude was again 15,350 ft. (W.), and to complete the similarity to our previous day's experience we had 5 hrs. of light wetting snow.

June 18 broke clear, and we were off before 3 A.M. We

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crossed some two miles of comparatively level glacier, and climbed slowly on and on up easy snow-slopes. About sunrise we had a magnificent view of Nanda Kot, and our heavy packs gave us numerous opportunities of turning round and examining it. I was carrying about 30 lbs., and found that my pack made an excellent back rest when sitting down. The men carried double, and for once did not hurry me. Thus in a leisurely manner we reached the pass, just 18,000 ft. (W.), at 8 A.M. Nanda Kot was magnificent, but we thought quite impracticable from this side. The pass at the head of the valley over to the Pindari glacier looked feasible. To the east was a chaos of snow-peaks beyond counting, stretching away to Nepal, but far too beautiful for me to describe.

At our feet the Ponting glacier fell away, disappearing from sight in an ominous fashion. The map indicated an uninterrupted sweep of glacier, but it is doubtful if any European had actually seen this glacier before. We found below us a range of cliffs cutting diagonally across the névé. A crevassed shelf of snow enabled us to pass this obstruction. But at 10.40 we were again brought to a sudden stop by a second and very precipitous line of cliffs which appeared to stretch right across the breadth of the glacier. Directly below us was a snow couloir, long and steep, and obviously the resort of falling stones and avalanches from the cliffs immediately to the N.E. of where we stood. To add to our troubles clouds were forming thickly on this side of the range. After a short rest we decided to work across in a south-westerly direction up and along the top of this second great step. Up and down we went, constantly getting a short way down the cliffs, only to be forced back again by their steepness. It would be tedious to detail our attempts. We were always harassed by wet falling snow and mist. But even if we had to spend the night where we were we had our tent and sleeping-bags. At 5.30 P.M. Henri hit off the head of a snow couloir, which certainly led downwards. Into it we plunged, descending backwards into seething grey mist. At length we saw avalanche débris below us, and soon after found ourselves on comparatively level névé. We raced across this dangerous plateau in the gathering darkness, only to find ourselves cut off from the lower glacier by a third range of cliffs. Somehow or other we got down the worst of this before the darkness stopped us in a dismal couloir. We lit our lanterns and went on again, soon to find ourselves safely on the lower glacier. At 9.15 P.M. we were able to leave this by the left lateral moraine, and soon came to a patch of grass. I foolishly

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refused to move a step further, so we pitched the Mummery tent and crawled into our sleeping-bags, though, as the men rightly said, we should have been much more comfortable further on. Next morning we found that we were only a few minutes from the snout of the glacier, and at an altitude of 11,600 ft. (W.) The valley below was a great contrast to those we had left on the northern side of the chain; groves of tree rhododendrons and silver birches, full of flowers, led us down through a forest of pine and cedar to a little pasture, from whence a shepherd fled in terror at sight of us. In time we reached our camp at Baughdiar, to encounter the first breaking of the monsoon. My Watkin gave the altitude as 7,950 ft., which is well under the mark.

As Sherring had now obtained leave from the Indian Government for me to accompany him to Tibet, we had to hurry down from the snows through the dripping tropical forests of the lower Gori to meet him at Askot. Leaving this place on June 29, we followed the celebrated track cut in the cliffs above the Kali river to Garbyang, which was reached on July 8. The Kali forms the frontier between Nepal and British India, but owing to the monsoon we never caught a glimpse of Api or Nampa during the whole march, though seven months later I saw this group when crossing the Terai at a distance of over a hundred miles.

Sherring having a good many things to attend to at this, the last village in our territory, I decided to enter Nepal and have a look at the Nampa glaciers, visited by Savage Landor in 1899.

With the friendly aid of Pundit Gobaria,* the great trader, I was fortunately able to get hold of Linka and Gobria, who had accompanied Landor throughout his expedition. Dhola was at Taklakot, and the fourth one was dead. Sherring could only give us three days, so I took nine coolies, in order that we might travel fast. We crossed the Kali just above Garbyang, and shortly afterwards the Tinker and Nampa streams, following a faint track along the left bank of the latter. Then on through beautiful pine woods and over two big grass meadows, till we came to a torrent flowing from the glacier on the north slope of the peak, marked 19,919 ft. in the G.T.S., which gave us some trouble to cross.

While we were having lunch we were overtaken by two Nepalese frontier guards, who had seen us cross the Kali, and

* Since made a Rai Sahib. He is the most influential British subject in this part of Tibet.

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who insisted that we must go back at once; but by the exercise of a little diplomacy we managed to override their resistance. Passing Landor's first camp we found the double-tongued Elfrida Landor glacier in front of us. The first tongue was stone-covered, then came a very old moraine area, now dotted over with big silver birches, followed by another and larger tongue of ice, considerably crevassed. I can only explain the formation by supposing that after the old tree-covered terminal moraine was formed the glacier began to advance again, and that the advancing end of the glacier was split into two tongues by the wedge-like opposition of the moraine. Beyond the second arm of ice a short steep descent led down to a little grassy maidan with a small empty stone hut on it. Landor gives the height as 13,200 ft. My Watkin gave it as 12,680. It was 4 o'clock, so we decided to camp in this delightful spot. Our coolies were a very musical lot. One of the best of them, who appeared to be a lunatic, owned a mouth-organ, while another took possession of a pair of pipes I had picked up, and seated round a big fire we spent a very merry evening.

Next morning we started at 6 with Linka, Gobria and two other coolies, prepared to sleep out if necessary. Getting on to the Charles Landor (or Great Nampa) glacier, near its point of junction with the Armida Landor glacier, we had a beautiful view of Nampa (23,352 ft.) at the head of the latter glacier. I supposed that Landor when he wrote of Lumpa had meant this peak, although the natives apply the name Nampa to the whole range. However, Linka and Gobria insisted on going straight on up the main ice-stream. At 8.15 we reached the camping place from which Landor started on his climb. His tent platform and the shelter his coolies made were still visible. The altitude was 13,600 ft. according to my Watkin. Leaving this camp some time after 5 A.M., he states that he ascended a peak of 23,490 ft., returning to the same camp at 6 P.M.

We left Landor's last camp at 8.45 A.M. and continued our way up the main glacier, finally taking to the left lateral moraine. We had now reached the upper basin of the main ice-stream (Charles Landor glacier), one arm of which extended some distance in a south-easterly direction. Without a moment's hesitation Linka and Gobria turned off into this bay, and soon took to the moraines and stone slopes forming its left bank. The altitude of the glacier was here 15,200 ft. (Watkin.) A short distance further on I took a photograph of Landor's Savage Pass with his two stone-men on the top

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of it, the Watkin giving a reading of just 100 feet higher. The time was 11 A.M. I mention this because the barometer was dropped and smashed at this point, a loss which I felt severely during the whole of my subsequent journey in Tibet. I fear that my remarks were frequent and painful and free; but since then I have washed in the waters of Mansarowar, and the sins which I have committed, and which I am going to commit, have been forgiven me.

Immediately above on the right was a long peaked ridge, running down towards us in a north-westerly direction from the main watershed; and following the advice of the Bhotias we began to mount this diagonally by a very tiring slope of loose stones, interspersed further on with patches of snow. After about an hour of this work Gobria pointed to a notch in the ridge above us and said that that was our road. I was rather mystified, but there was nothing to do but trust him. The last two or three hundred feet were composed of a slope of loose stones constantly rolling over as we moved; this bit was certainly extremely fatiguing, and everyone of the party sat down to rest pretty frequently. Thus it was not until 1.35 P.M. that we stood in the notch. I doubt if the altitude was over 16,500 ft., because by making use of several glissades we only took 25 minutes to regain the point where the barometer was smashed at 15,300 ft., and some distance down the glacier.

From the notch the ridge rose steeply towards the south into a beautiful peak. It must be between 18,000 and 19,000 ft. in height. There would be a lot of step-cutting, I thought, and I had already decided in my own mind to leave the Bhotias behind. The latter had meanwhile climbed up some 50 ft. of rock on the N. side of the col, and were calling me to come to them. On reaching them they showed me two large cairns very much the worse for wear, on one of which they said a stone had been placed with their names scratched on it. They pointed out where it had been placed six years before, at the top of the nearest of the two cairns, but we could not find it. Very likely it had been blown away from this exposed spot. They persisted that neither they nor anyone else had been any higher. It was obvious that at the time of our visit there was no mountain approaching 23,490 ft. anywhere near this spot, so I thought that we had gone high enough too.

We stayed up here for over an hour, admiring Nampa, some five miles away, and the wonderful array of glaciers below us, while the coolies slept after smoking all the cigarettes I would give them.

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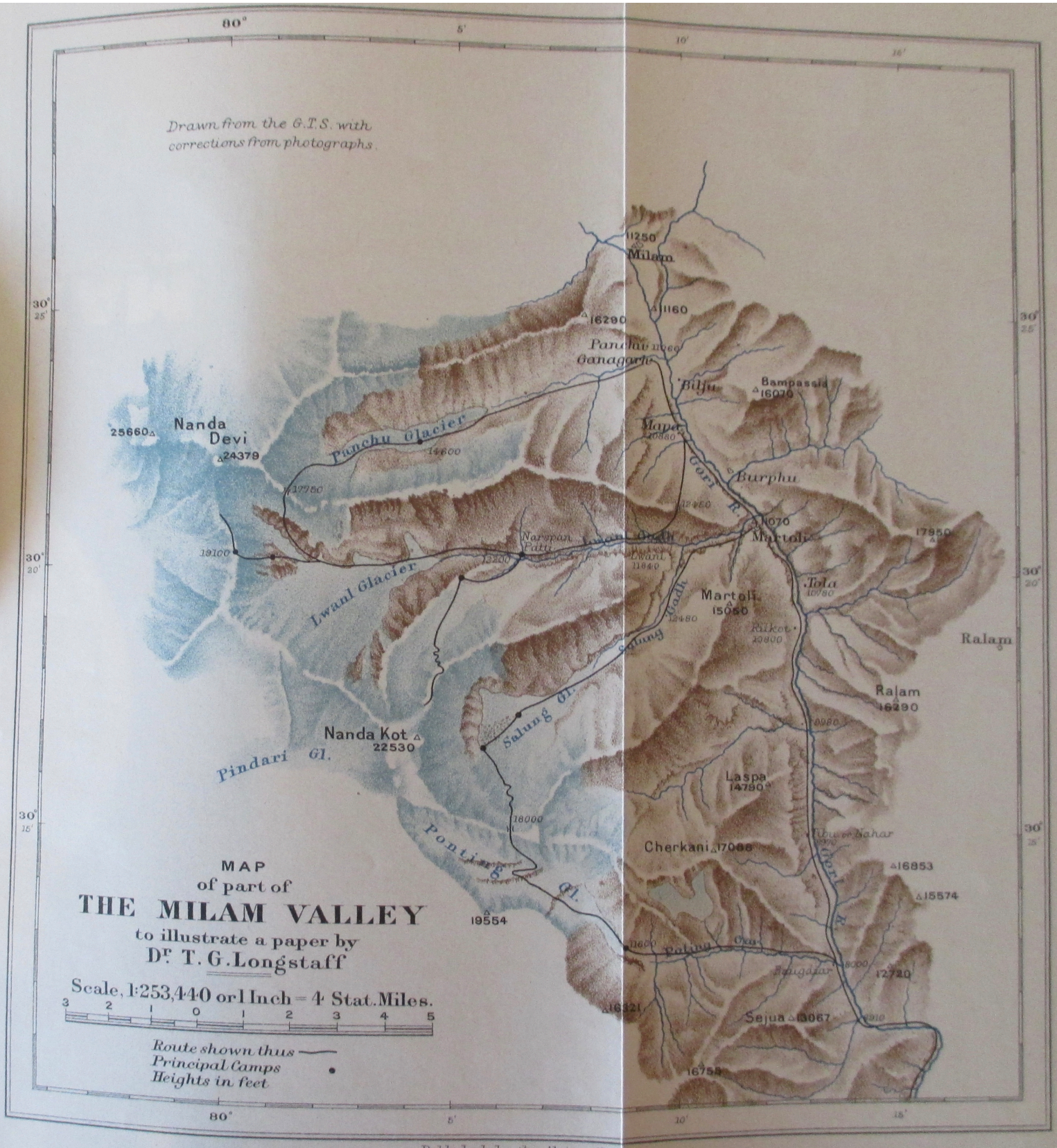

Published by the Alpine Club

At 2.40 we left the cairns. At 3.5 we regained the point 15,300 ft.; at 4.45 we reached Landor's camp, and at 7 P.M. our own, having gone as fast as possible the whole time. Next day we returned to Garbyang. Three days later we crossed the Lipu Lekh (16,780 ft.) with Sherring into Tibet, reaching Taklakot (or Purang) on July 15. We made this village our base for the attack of Gurla Mandhata.

Gurla Mandhata, or Memo-Nam-Nyimri, or Nimo-Numgyl, is the name applied to a group of snow-clad peaks, the highest of which attains, according to the G.T.S., an altitude of 25,350 ft.* Though lying close to the north-western corner of Nepal and the Kumaon frontier, it is situated wholly in Tibet, and is probably the highest mountain lying entirely within the limits of that country. So far as I am aware no previous attempt has been made to ascend it, or even to explore its numerous glaciers, the reason being doubtless the political rather than the physical difficulties of access.

I left Taklakot (13,300 ft.) on July 18 with Alexis, Henri, and six Bhotia coolies, who had come with us over the Lipu Lekh from Garbyang. We followed the track across the Karnali, and past the tomb of Zarawar Singh, whose army was annihilated near here in 1841, to the foot of a great buttress on the western side of the mountain. As we had never yet had a clear view of the group, and had never seen its highest peak at all, the choice of this particular buttress was mere guess-work.

We began the ascent of the buttress (*vide* sketch map) at midday, and toiled up steep and apparently interminable stone slopes till 6 o'clock, a herd of wild sheep (burrhel) keeping easily ahead of us the whole distance.† By this time I believe we had reached an altitude of at least 18,000 ft., and probably higher, for on the southern slopes the level of permanent snow seems to be nearly 19,000 ft. It had been a perfectly easy walk, and I was not carrying a load; nevertheless I was suffering from severe headache. The fact that

* On the map illustrating Captain Rawling's paper, and published in the *Geographical Journal* for October 1905 (vol. xxvi., No. 4), the height is given as 25,850 ft., but I think the 8 is a misprint for a 3.

† Graham christened A_{21} 'Mount Monal,' because of the number of those beautiful pheasants (monal) that he saw on it. Of course he did not mean that he saw them on the top (22,516 ft.); nevertheless this is still a stock argument against his veracity. I hope I shall escape a similar fate when mentioning the presence of game at high altitudes.

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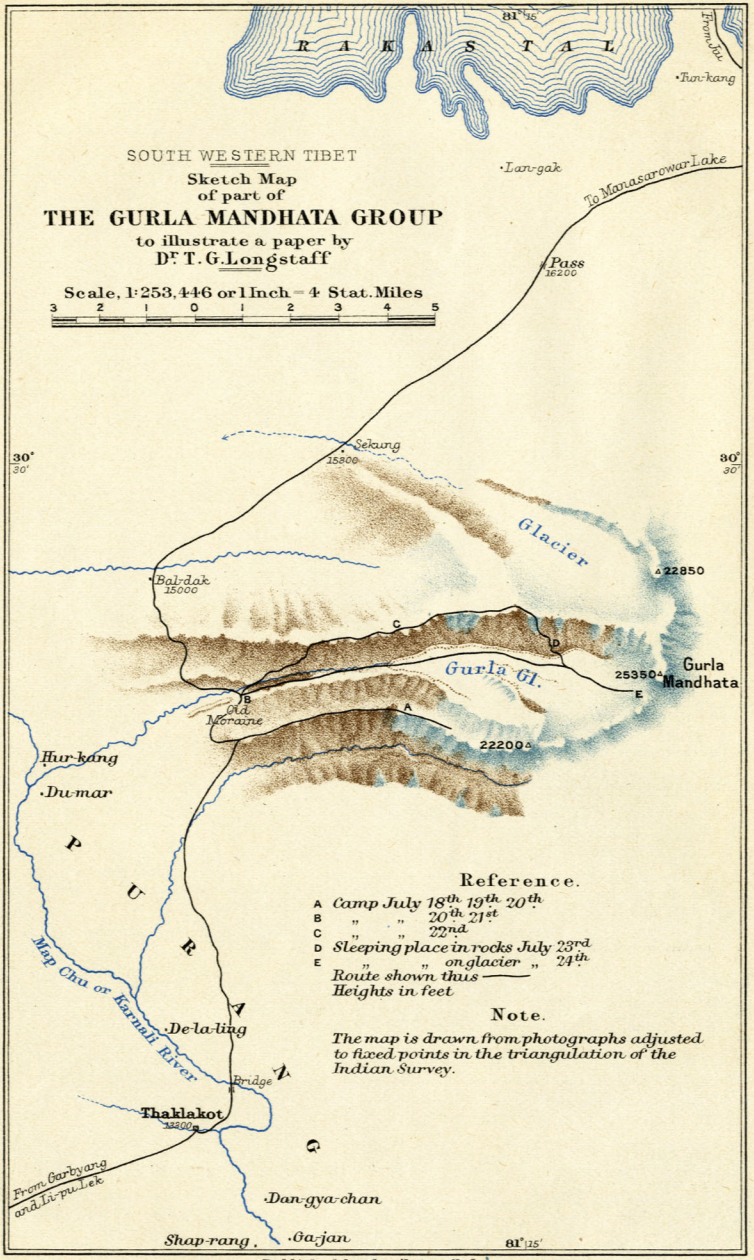

Reference.

A Camp July 18th, 19th, 20th
B " " 20th, 21st
C " " 22nd.
D Sleeping place in rocks July 23rd
E " " on glacier " 24th.
Route shown thus ——
Heights in feet

Note.

The map is drawn from photographs adjusted to fixed points in the triangulation of the Indian Survey.

Published by the Alpine Club.

I had had nothing to drink since leaving Taklakot early in the morning probably partly accounted for my sufferings. The guides did not suffer any inconvenience from the altitude, but our six coolies straggled in all more or less affected with headache or breathlessness. They were immensely relieved when told they might leave us and spend the night and the next two days at the foot of the mountain.

Our Mummery tent was quickly pitched, and in spite of the glorious sunset I at once crawled into my sleeping-bag to rest, without joining the guides at their supper. The night was fine and cold; but in the morning, July 19, the clouds were down on the ridge above us, so, as I still felt unwell, we decided that it was no good making a start, and that I had better have a day's rest. And a glorious day it was. Clouds hid the snows above us and also the great peaks of Nepal and Kumaon, but, more than 100 miles to the W., Kamet (25,443 ft.) was visible from base to summit, a mighty cone keeping guard over the Niti Pass into Garhwal. Below a great plain, with rounded hills rising from it, extended westward as far as the eye could reach, bounded on the N. by the Kailas peaks, and in the far N.W. by the Gangri range, partially snow-clad on their northern slopes, separating the sources of the Indus from the valley of the Sutlej.

I boiled a thermometer (Hick's), lent to Sherring by the Superintendent of the Trigonometrical Survey, and found that snow-water boiled at 169° to 170° F., indicating an altitude of 23,000 ft. But we were certainly not as high by at least 3,000 ft. Similarly at our bivouac of July 22 melted snow boiled at 165° F., indicating an altitude of 25,400 ft.—a still more absurd result, for the summit of Gurla is only 25,350 ft. above sea-level by triangulation. Of course I am aware that my methods were very crude, and that these observations are quite unreliable.

During the forenoon the two guides made a short reconnaissance up the first snow dome on our ridge, but the clouds prevented them from seeing where they were, and thus unwittingly we lost another day.

Next morning (July 20) we roused up soon after midnight, but making tea at this altitude is such slow work that we did not get off till 2 o'clock. Slowly, in spite of the cold (see page 256), we climbed the last stone slope; then the rope and crampons were put on, and we began the ascent of a steep dome of snow. After turning a few crevasses we worked over towards the N., and suddenly had a glimpse of Rakas Tal, far below us, though Mansarowar itself was hidden by another

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E

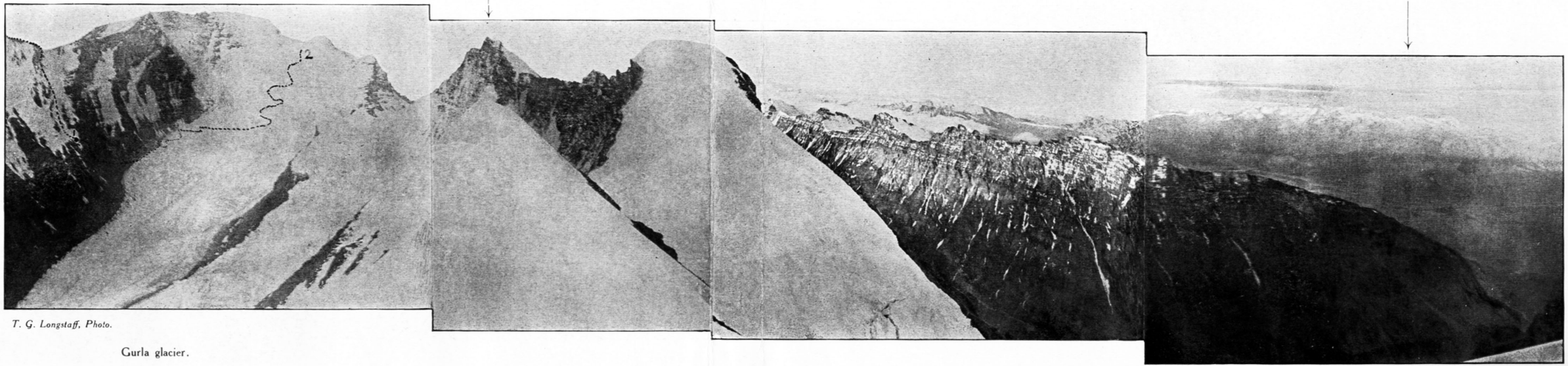
Summit of Gurla.
25,350 ft.

G.T.S. peak.
22 200 ft.

Very distant high peaks in Nepal.

Taklakot.

Lipu Lekh.



T. G. Longstaff, Photo.

Gurla glacier.

Swan Electric Engraving Co.,

GURLA MANDHATA FROM THE W.S.W.

VIEW TAKEN BEFORE SUNRISE, JULY 20, 1905.

Dotted line indicates route of July 23, 24, 25. Broken line indicates a

S

S

great shoulder of the peak on which we stood. There was a grand moon to light us, and we had no need of our lanterns. The dawn came by almost imperceptible degrees, and the moon-shadows melted from the valleys slowly, until suddenly one of the great peaks of Nepal caught the first rays of the sun. It lay far away to the S.E., seeming to overtop all its neighbours; by its bearing it must have been Dhaolagiri (26,826 ft.), 180 miles away.

A great disappointment awaited us on reaching the top of the ridge. We saw that the peak we were making for was not the highest one of the group, but evidently that marked 22,200 ft. on the map. Opposite to us, across a deep chasm down which flowed a beautiful white glacier,* was another great ridge leading up to the true summit. There were two possible routes to the top—one by the Gurla glacier, below us, and the other by the ridge just mentioned. I favoured the latter route for several reasons. It would obviously be practicable to take coolies up to 20,000 ft. on it, and make a bivouac on a patch of rocks amongst the lowest snow-fields; on the ridge there would be no danger of avalanches or falling stones; it looked fairly easy; and, lastly, I thought that we should find it less oppressive than toiling among the séracs and crevasses of the glacier below. However, in justice to Alexis, it must be recorded that he favoured the other route.

There was nothing for it but to turn back, so we descended to our bivouac and had some food. Our camp and stores were packed up, and down we went, the guides very heavily loaded, to rejoin the coolies waiting for us below. Soon after starting I had a shot at a fair ram, but the effort of holding my breath was too great for steadiness.

Near the foot of the ridge we met the coolies, and gave up our loads with no great regret. The two guides returned to Sherring at Taklakot with three coolies for more petroleum and provisions, while I went on with the other three and made a camp (about 15,400 ft.) in a very well sheltered corner under some rocks, by the side of the stream flowing down from the Gurla glacier, and close to an old moraine. On the way I managed to knock over a couple of hares and a goa, that curious broad-muzzled gazelle of Tibet.

That night I had a grand 12 hours' sleep with the Mummery tent all to myself, and spent the next day very pleasantly in doing nothing. The guides got in about 3 o'clock,

* As this is one of the largest and most important glaciers of the group, I propose to call it the Gurla glacier.

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after a very long tramp from Taklakot, and almost immediately started off after a herd of burrhel that were grazing on the slopes above our bivouac; more successful than I, they succeeded in bringing back a most acceptable supply of fresh meat at nightfall.

At 8 o'clock next morning, July 22, we started off with five of the coolies, and tramped up a ridge, very similar to the first one we had attacked, till half-past 3 in the afternoon, when we reached the first patch of snow from which we could get water, which is very scarce on this mountain. As before I had a headache, but the views on the way up almost reconciled me to it. Kamet, with its attendant peaks, was again magnificent, and we could distinctly make out the Sutlej, running westward through the Tibetan highlands on its way to the plains of the Panjab through the mountains of Bashahr.

As usual we sent the coolies down, this time with orders not to expect us back for two or even three days; as a matter of fact we were not to see them again for five. This bivouac was a very high one: our altitude must have been nearly 20,000 ft. However, we did not feel the cold severely, at any rate not nearly so much as during the night we spent at 19,000 ft. on Nanda Devi, I suppose because the atmosphere is so much drier in Tibet. But I still felt unwell, and consequently we did not get under way till nearly 5 o'clock on the morning of July 23.

The snow was in good condition and the ridge quite easy, but it proved to be much longer than we expected. We had left our tent, sleeping-bags, and most of our kit at the bivouac, carrying only two days' food and a few extra clothes, and thus lightly laden seemed to be making good progress. Moreover I felt and walked better as the day wore on. At 2 o'clock we reached a point about 23,000 ft. above sea-level: from it we looked right over the top of the sharp peak marked 22,200 ft. on the map, and which lay on the further side of the Gurla glacier. In front of us a steep descent led down to a gap in the ridge, from which again rose the final arête leading to the summit, still a long way off. The afternoon clouds were already gathering in a threatening manner, and a lively discussion arose as to what we should do next. If we went on we should have to spend a night on the exposed ridge, probably at an altitude of 24,000 ft., with no wraps except our gloves and jerseys. Henri suggested descending into the gap and passing the night in a hole in the snow. Alexis and I, however, thought it would be much

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wiser to descend the southern slope of our ridge, and spend the night among some rocks which we could see standing up out of the snow-slopes below us, finishing the ascent next day, as we fondly hoped, by the Gurla glacier and the southern ridge of the peak.

We reached the gap about 3 P.M., and started to descend the slope, moving with the usual precautions. At first all went well, and we got down 300 or 400 ft. I had let down Alexis the full length of his rope, while Henri steadied me from above; just as I turned to take in the slack of Henri's rope I heard a sharp hissing sound above me; Henri, lying flat and trying hard to stop himself, came down on the top of me and swept me from my hold. As I shot down past Alexis I felt his hand close on the back of my coat, and we went down together. The sensation was a very curious one. The mind seemed quite clear, but curious as to the end rather than terrified. I found myself taking a dispassionately quiet and detached view of our proceedings. Time seemed annihilated, so slowly did thoughts appear to pass through the mind during the very short time we were falling. The glacier below, with the rocks just above it, seemed to be rushing up towards us at an incredible pace, just as the engine of an on-coming train grows bigger and bigger each instant as it approaches. I distinctly remember throwing off my snow-spectacles for fear that I should damage my eyes when we reached the rocks!

After what seemed an age I heard Alexis shouting, 'A droite, à droite!' I knew he was somewhere to the right of me, and was trying to get us into safety. He had seen a gully filled with snow, down which he hoped we might slide in safety past the first rocks on to a large snow-bed far below. However, I could do nothing but try and keep on the surface of the avalanche. Then somehow I got turned round with my head downwards, and saw a few yards off a ledge of rocks with a drop on the far side; I seemed to rise on a wave of snow and dropped over a low cliff, with Henri mixed up in my part of the rope. We were, of course, on moving snow, and we fell on to moving snow, so our pace was only slightly checked, and we hardly felt the shock of the fall. On we went with the rope round my neck this time; but it was easy to untwist it. Then came a longer drop, which I thought must be the last from my point of view. The next thing I remember was that suddenly, to my intense surprise, the rope tightened round my chest, stopping me with a jerk which squeezed all the breath out of my body. The avalanche had

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spread out, and stopped of its own accord on a somewhat gentler slope of soft snow. Henri was half buried above me, and Alexis was away to the right. I suppose that, being much lighter than either of them, I had been able to keep more on the surface of the avalanche, and so rolled on further. Both the guides lay quite still. The rope was so painfully tight that I cut it. I called to Alexis, who replied in an injured tone, 'Why have you cut the rope?' It was a silk one, and we had always been very careful with it. Then I started up towards Henri, who had not moved. However he was merely more breathless than the rest of us.

By this time the reaction had set in, and my knees were fairly knocking together. We crawled to the nearest rocks to take stock of the damage. Alexis was quite unhurt; Henri and I had only a few cuts and grazes. We had all three lost our topis and ice-axes, and the two men had each broken a crampon. We must have fallen about 1,000 ft., and we fully realised what a miraculous escape we had had. I think we were to blame in having ventured to descend any steep Himalayan snow-slope after the sun had been on it all day.

The men very pluckily started up again to recover the ice-axes, whilst I cautiously descended the rest of the slope towards the rocks where we intended to spend the night. On the way down I recovered one of the topis; of the others there was no trace. After a little search I found a small platform of rock, half overhung by a big boulder, and built a low stone wall round one side to keep the wind off. The men came down about 8 o'clock, having recovered all three ice-axes—a very fine performance on their part. We put on what few spare clothes we had with us, and curled up for the night. However, sleep would not come to me, and, worse still, I had very little tobacco!

In the morning (July 24) we found that we had several rock gullies to descend before we could take to the glacier, and as we spent some time looking for our hats we did not start upwards again till half-past 6, when we took to the upper part of the Gurla glacier. Soon we began to feel the power of the sun, and Alexis most generously insisted on my wearing his topi, he and his brother wrapping jerseys and handkerchiefs round their heads. The glacier was much crevassed, but fairly easy when taken in big zigzags, and the snow was hard. We tramped along as fast as we could, and seemed to make height rapidly, but the heat in the hollow of the glacier was most oppressive, and at two o'clock Alexis

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collapsed with a sun-headache. We put him into the shade of a small sérac, and told him to try and get some sleep. It was very hard luck on him, and most unfortunate for our climb; we quite thought that we could reach the top of the peak and get down the short steep bit just below it before nightfall, finishing the descent by lantern light. But Alexis was too ill to go back alone, and we did not like to leave him to wait for us in such a condition. Henri immediately set about making a hole in the snow for us to sleep in. He is a great believer in this mode of spending the night; but then he never feels either cold or fatigue. I tried to help, but found the work was too heavy for me at that altitude, which I personally think was at least 23,000 ft. (see page 256). Henri soon had his cave ready, and we all crawled in out of the sun and had a good rest.

Our food was nearly finished, and as we none of us had much appetite dinner was dispensed with. At night I wrapped my puttis round my feet, coiled down the rope on the cold floor, and hoped that the roof would not fall in upon us. I dreamt that Sherring had sent a square khaki-coloured water-cart, full of warm wraps, up the glacier to us. However when it arrived it contained only Jaeger stockings, and the driver, in spite of my violent abuse, insisted that we were only entitled to one pair each. Hence I was so cold that I roused up the men about 2 A.M. on the 25th.

After a very modest breakfast we started off by lantern light at 2.30, threading our way up an icefall among big crevasses. After about an hour's climbing we were stopped by a crevasse with an overhanging wall of ice on the far side. We tried to get across in two places, but it was soon evident that we must wait for daylight to find some way round it. I got colder and colder, and indeed felt quite incapable of climbing another step. Want of sleep and food, I think, were responsible for my condition rather than the altitude.

Henri urged me to persevere. 'If you turn back now and do not finish the ascent, you will regret it very much when you get down into the valley,' said he. The natural retort was that if I did not turn back at once I never should get down into the valley. The guides both insisted that we were only 300 mètres from the summit, which certainly seemed to be within easy reach the day before. Personally, I think that we were at least 1,500 ft. from the top, and therefore less than 24,000 ft. above sea-level, but, as I have already mentioned, my barometer was broken and my attempts at boiling the thermometer had been a fiasco, so that all we had

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to go upon was a comparison of the triangulated peaks around us. It really does not matter what the exact altitude was: even if we had known it it would not have altered the fact that we were beaten—at least I was.

And so at 4 o'clock we turned downwards. For men in good condition it would have been easy to complete the ascent, for the mountain is not really a difficult one by this route. But we had been climbing for two days on short commons, and had spent two nights without any proper covering. I was utterly exhausted, and Alexis, not yet recovered from his headache, was in little better case. For Henri it must be said that he was not only willing to go on, but very much disappointed at my refusal to do so. I quite believe that had I allowed it he would have gone to the top alone. The altitude appeared to have no effect whatever on him.

In three hours we quitted the Gurla glacier and took to the commencement of the moraine high up on its right bank, the dry glacier being much too rough to follow. Here we finished our last scraps of food and had a couple of hours' sleep. Then down over endless moraine, and still downwards beside the absurdly small glacier stream,* till at 4 o'clock in the afternoon we reached our camping place of the 21st. Here we expected to find our coolies, but they were nowhere to be seen, and as our camp, with food and rifles, was some four or five thousand feet above us on the great western spur, we pushed on to Baldak, and thence to Sekung, another camping place, which we reached at half-past 9 that night, thinking all the time what we would order for dinner when we got there! Unfortunately there had been a misunderstanding as to where our camp was to wait, and it was not until four days later that we rejoined it, by which time I was so knocked up that I didn't feel well enough to try Gurla again, or to tackle Kailas, which we passed a week later.

We had spent a week on the mountain, and after a good deal of hardship had only succeeded in finding the proper route. But I hope it will not be long before some other party tries it. I honestly feel sure they will succeed, and that they need only spend one night in the snow if they take it from the Gurla glacier, as I ought to have done in the first instance.

* Probably due to direct evaporation from the surface of the ice in this very dry climate. This would also account for the extreme roughness of the glacier as soon as it loses its covering of snow.

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I wish that I could tell you of our journey in Tibet, with its huge skies and wonderful double sunsets; but there is no time this evening.* We crossed the disputed but very well-marked channel between Rakas Tal and Mansarowar, a very fine photograph of which Sherring is publishing in his forthcoming book, and continued along the Gartok road, past Kailas to Missar. Here I separated with great regret from Sherring, who had to go to Gartok, and made my way to Gyanema, and then westward to Shipchilum, which I reached in about three weeks. Another week saw us over the Shelshell (16,300 ft.) and Chorhoti (18,500 ft.) passes into British Garhwal.

It was now September, and I was still anxious to try Trisul from the S., so I hurried down through Garhwal amidst most wonderful scenery to Gwaldam, the home of Mr. Robert Nash and his wife. I cannot express what a pleasure it was to meet them after so long an absence from civilisation, and how much we appreciated their hospitality.

In this beautiful spot, straight opposite Trisul and less than 30 miles from its summit, we waited nearly a fortnight for the monsoon to clear away. The snows were generally hidden by rain clouds in the afternoons, though there was little heavy rain at Gwaldam itself. The sunsets at this season are glorious, and the mornings were often quite fine.

At last, in desperation, we set off on September 26. I have said that the distance to the top of Trisul was less than 30 miles as the crow flies. Yet so difficult is the country that it took us just a week to get our light camp up to the highest point of the Kurumtoli† moraine, to which our coolies could carry it. Here, just at the point where the Kurumtoli glacier takes a sharp turn to the S.W., we had our first view of the head of this valley, and realised that all our hopes were founded on an error in the map. The Kurumtoli glacier rises from the slopes of the middle peak of Trisul, and from this peak, and not from the northern and highest summit, runs the watershed, nearly in a straight line eastward to the peak 22,490 ft. of the G.T.S.

Further the glacier, which is shown flowing into the

* Anyone interested in this part of Tibet should read the papers of the brothers Strachey, which contain what is still the best description of the country (see page 256).

† The Garhwalis give this name to a glacier on the western flank of Trisul, because there is a kharak of that name there, but the G.T.S. has adopted it for that from which the Kailganga rises.

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Kurumtoli from the E., does not enter the same valley at all, but whether it flows N. into the valley of the Rishi Gunga, or S.E. into the Sukeram glacier, I could not see. From the point of view of the Indian Government there would be no object in sending a member of the survey up here; in fact, it appears certain that no one before us went on to the upper Kurumtoli glacier, so naturally the map is unreliable.

Starting from our bivouac at 6 o'clock (October 3), on what we realised was to be our last day among the snows, we made rapid progress up easy, dry glacier till we came to the icefall that runs right across from side to side of this narrow death-trap of a valley. The two lower peaks of Trisul were most efficiently armed with masses of snow and ice poised ready to fall, and obviously capable of raking the narrow glacier from side to side. Without entering into more detail I will be rash, and take the responsibility of saying that Trisul is impracticable from the S., and probably from the W. too. I believe that it can only be attacked from the Rishi Valley, a gorge which it is almost impossible to ascend directly.

We returned to Naini Tal on October 14, and a few days later I said good-bye to Alexis and Henri. More courageous guides and better travelling companions in fair weather and foul weather, in fat times and in lean times, I am never likely to meet. It was only through ignorance that they abetted a cousin with a turn for literature in publishing some of my photographs and an account of the trip, which certainly did credit to his imagination, in 'L' Illustrazione Italiana' and 'Le Monde Illustré.'

As a postscript I will add that I spent the next month in camp among the Hazara hills, getting some fine views of the Khagan peaks, Nanga Parbat, and the snows of Kohistan. Towards the end of November I saw the hills of Tirah and Waziristan from the Samana Tsuk, and spent several days at Parachinar, at the foot of the Safed Koh, making an excursion to the Peiwar Kotal; while at the beginning of February of this year I went out to Sandukphu to have a look at Kinchinjanga, Kabru, and Everest.

After the conclusion of the paper the following note from Mr. Douglas Freshfield was read:—

'I very much regret that I cannot be present to join in the discussion of Dr. Longstaff's important paper, and to congratulate him on the success he has attained, both in explorations of exceptional interest and in adding to the material for the inquiry

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into the effects of altitude on the human frame. I have ventured to put on paper some of the remarks I might have made.

'First, with regard to altitude and the ascent of Kabru. In the February "Alpine Journal" Dr. Hunter Workman comments on Mr. Graham's statements with regard to the heights reached in the Himalaya. His scepticism is, I think, unreasonable, and that because the fact that human beings not of any exceptional strength and activity can climb over 23,000 ft. has been abundantly proved by Dr. Workman's own party. The three climbers of Kabru were exceptionally active mountaineers.

'Dr. Workman adds that "prominent members of the Indian Survey," and also Colonel Waddell, have expressed their disbelief in these ascents. Colonel Waddell is a high authority on Tibetan antiquities; he is none whatever on "Mountaineering," in the sense in which the word is used in this Club. The members of the Survey expressed at the time their reasons for doubting, and I dealt with them very fully in this "Journal" (vol. xii. pp. 99 foll.). Residents, official or otherwise, are a very sceptical class as to anything in the country they inhabit they have not done or seen themselves. In Uganda, for example, last autumn I was frequently assured that Sir H. Johnston's Okapi was a fraud, and that he had been taken in by a clever skin-mounter. It is particularly rash for any Himalayan mountaineer to cite local opinion. Mr. Graham's are not the only ascents it has hesitated to credit, nor is he the only climber it has criticised.

'Dr. Workman's comparison of Kabru to "three sharp rock needles" on the Biafo Glacier is quite beside the mark. We saw Kabru as a traveller who goes from the Col de Balme to the Bonhomme and climbs the Brevent sees Mont Blanc. There are no doubt dangers and there may be difficulties in its ascent, but it is not an inaccessible mountain.

'I should like to add that the remarks on Watkin Aneroids by Dr. Workman in the same number of the "Alpine Journal" seem to many of us unduly depreciatory. This is my own impression, and it has been confirmed on inquiry at the Geographical Society.

'With regard to the general problem of reaching the highest altitude on mountains, I hold that no satisfactory trial can be made until efficient porterage over 20,000 ft. has been provided. This, in my opinion, involves one of two things—the use of a company of mountain-born natives, disciplined, properly clad and shod for snow-work, previously practised in high ascents, and acting under a European they both know and trust, or the services of sufficient Alpine porters. The latter, of course, means considerable cost, which might, but is hardly likely to be, met by the Indian Government, or rather the India Office, which at present controls closely every item of extraordinary expenditure, and has little sympathy for geography, science, or adventure. It is not impossible, however, that (as for the Arctic and Antarctic regions) some wealthy man might be found willing to contribute largely to an expedition carefully organised under competent leaders. The first

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essay might prudently be confined to 25,000 ft. For this the district visited by Dr. Longstaff may prove to have climatic advantages; for climate, unfortunately, is a most formidable foe in the Himalaya as well as in Uganda.'

IN MEMORIAM.

GEORGE EDWARD FOSTER.

AMONG the losses which the Alpine Club has sustained of late, few, I think, will be more generally regretted than that of Mr. G. E. Foster of Brooklands, Cambridge, who died on April 9, in his 66th year. Owing to ill-health Foster had to give up climbing sooner than his friends could have wished. He was a constant attendant at our meetings, and at one time a not infrequent contributor to our 'Journal.' The only time I travelled with him was in 1868, and I often think of the pleasant fortnight we had together, of which he wrote an interesting account in the 'Alpine Journal.'* In 1871 Mr. Foster, accompanied by Mr. A. W. Moore, made the first passage of the Tiefenmattenjoch,† and in 1873 the same travellers made a memorable ascent of Mont Blanc, leaving Courmayeur at 12 20 A.M. and reaching Chamonix at 10.40 P.M.‡

Among other notable expeditions made by Mr. Foster, who was regularly accompanied by his favourite guide, Hans Baumann, mention should be made of the first ascents of Mont Collon§ and the Gspaltenhorn,‖ and of the ascent of the Jungfrau from the Wengern Alp.¶

Of Mr. Foster himself it is perhaps hardly necessary to say much, as he was so well known to the Alpine Club. His amiability endeared him to all who ever had the pleasure of his company, and will live in their memory coupled with regret that the name of G. E. Foster should no longer appear in the list of members of the Alpine Club.

H. W.

THE ALPINE CLUB ANNUAL PHOTOGRAPHIC EXHIBITION.

THE annual Photographic Exhibition, held in May last at the Alpine Club, fully maintained its high standard of excellence. We should perhaps have liked to see a little more variety in the tones in which the various enlargements were printed. Many of the subjects would, we think, have been improved by being printed in warmer colours. We regretted to notice that the Himalayas, the

* *Alpine Journal*, vol. iv. pp. 365 foll. and vol. v. pp. 145 foll.
† *Ibid.* vol. v. pp. 275 and 321 foll.
‡ *Ibid.* vol. vi. p. 293.
§ *Ibid.* vol. ii. p. 414 and vol. iv. p. 56.
‖ *Ibid.* vol. iv. p. 382.
¶ *Ibid.* vol. iv. p. 54.

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