

# The Geographical Journal

Vol. LXIV No. 6

December 1924

---

## THE MOUNT EVEREST EXPEDITION OF 1924

*Joint Meeting with the Alpine Club at the Royal Albert Hall,  
17 October 1924.*

### I. INTRODUCTION

The Earl of Ronaldshay, President R.G.S.

MANY of you who are present to-night were able to attend the beautiful Memorial Service held at St. Paul's this morning to the memory of Mallory and Irvine. Those who were prevented from doing so will wish to join in the tribute of admiration, affection, and respect which was then paid to the memory of these two men whose dauntless spirits refused to be bound by the fetters of their earthly bodies, and in that refusal found a glorious release. "We expect no mercy from Everest," declared Mallory after the climbers had been driven from Camp III. for the second time by abnormal weather. They received no mercy, and they died. But not, surely, in vain; for in dying they showed that the upward aspiring spirit of man, which will sacrifice all in its pursuit of an ideal, is a living and compelling force in determining the conduct of the individual, and equally therefore in shaping the destiny of the human race. I shall move no formal resolution of condolence, but will ask you to pay your tribute of respect in silence by rising in your places.

The story of the Mount Everest Expedition of 1924 will be told to you by those who actually took part in it—by General Bruce, who has the sympathy of all of us in his ill fortune in being compelled to relinquish the command by a temporary break-down in health; by Colonel Norton, who shouldered the responsibility of leadership with such conspicuous success; by Captain Geoffrey Bruce, who played so large a part in establishing those high-altitude camps upon which the success of any attempt to scale Mount Everest must necessarily depend; and by Mr. Odell, who was in support during the last great climb which ended in the loss of Mallory and Irvine. In these circumstances I need do no more than make bare mention of the outstanding achievements of the Expedition. The highest camp at which a night was spent during the attempt in 1922 was 25,000 feet; this year a

camp was established and nights were passed at 26,700 feet. In 1922 all previous records were beaten when Mallory, Norton, and Somervell without oxygen, and Finch and Geoffrey Bruce with oxygen, climbed to close on 27,000 feet and 27,250 feet respectively. This year these records have in their turn been beaten by Norton and Somervell when they climbed to 28,130 feet without oxygen, and by Mallory and Irvine when they reached 28,230 feet for certain and probably a greater altitude with oxygen. When it is remembered that these feats were achieved after the physical vigour of the climbers and the *morale* of the porters had been affected by two retreats to the base camp imposed by violent climatic disturbances—blizzards of snow accompanied by as much as fifty-six degrees of frost—the real magnitude of what has been accomplished becomes apparent.

Is the fight finished? Is the possibility of climbing Mount Everest to be left in doubt? Neither the members of the Expedition nor of the Mount Everest Committee are content to let the matter rest where it now stands, and it is our intention to apply immediately through the Government of India for permission from the Tibetan Government to make another attempt, possibly in 1926.

I will now ask General Bruce to begin the story.

## II. THE ORGANIZATION AND START OF THE EXPEDITION

### Brigadier-General the Hon. C. G. Bruce, C.B.

I find that I am down to follow the President of the Royal Geographical Society both in my capacity as President of the Alpine Club and as the original leader of this year's Expedition.

As President of the Alpine Club I consider myself free to offer my warmest congratulations and to express my admiration to Colonel Norton and to the members of the Expedition, for his (Colonel Norton's) wonderful leadership, and to all for the heroic efforts which they all made. I must also express on the part of the Alpine Club the deep sorrow felt for the loss of two gallant members of our expedition who made their sacrifice in the most terrific effort of all mountaineering history. They were two magnificent personalities, and have the finest cenotaph in the world, and are worthy of that splendid monument.

Speaking now as the original leader of the Expedition, I must pass on to its organization. Colonel Norton, Captain Bruce, Mr. Shebbeare, and myself found ourselves in Darjeeling in the last days of February. There we found a large collection of porters, both true Tibetans and Sherpas, for us to choose from. We also found local supplies which had been ordered by our excellent agent Mr. Weathered, all ready for forwarding to Tibet. Our old interpreter and our old headman of porters were also ready to re-engage.

Owing to the experience gained on previous expeditions, and our exact knowledge of the geography of the district, and of where the high camps would be placed, it was found possible to earmark our stores for the different camps, so as to save time at our Base Camp. These arrangements were made by Norton and Bruce, and Shebbeare was despatched to Kalimpong to take delivery of the stores and forward them on by our contractors into Tibet. All went swimmingly, and as soon as our whole party was collected, which was at the beginning of the last week in March, we were able to set out.

We marched in two parties in order not to overcrowd the rest-houses on our route, and collected in the beginning of April in Yatung. Certain arrangements had to be made there, but the party and its entire stores were gathered in Phari by April 5. We were a day earlier than in 1922, but experienced the whole way up an infinitely milder climate. Phari, to our intense relief, and somewhat to our surprise, was almost balmy. There we had rather more than our expected troubles with the local authorities, who are of a peculiarly grasping nature, and had taken the opportunity of putting up the prices of everything 25 per cent. over 1922 rates. We had a two days' battle, and a dramatic *finale*, when a telegram to the Prime Minister of Tibet reporting their conduct was torn up in their presence as soon as a suitable agreement had been arrived at. We had previously discovered that orders had come from Lhasa directing every assistance to be given us, but the final collapse of the Phari authorities was both dramatic and amusing.

From Phari began the second stage of the march across Tibet to the Base. We left Phari on April 7, the main party, owing to the curious district restrictions on transport in Tibet, marching *via* the Dongkar-La to Kampa Dzong, and Major Hingston, Mr. Macdonald our postal expert, and myself going with a light outfit by the Tuna, Dochen, and Tatsu Tatsung route. However, I was obliged through illness to relinquish the command of the Expedition at Tuna, and hand it over to Colonel Norton.

Disappointing as this step was, it was partially made up to me by the personality of my successor, for no finer or more inspiring leader could have been found, and this is borne out by the manner in which he dealt with the immense difficulties and hardships occasioned by the terrible conditions met with this year.

One word about the weather. All through May there was a wave of cold and wet weather over the whole of the Western and Central Himalaya, brought by strong winds from the west, and giving in the Panjab and North-West Provinces almost the lowest temperatures ever experienced for that time of year. These storms and winds had nothing to do with the monsoon, which itself was favourable, in that it was about a week later in arriving in the Eastern Himalaya than is usual. This condition was a thorough bit of bad luck, and very unusual. I think it

will be seen that at the time of the final effort on Everest the weather was extremely favourable, which was probably due to the slight delay in the monsoon.

With regard to the porters, they had an extraordinarily rough time, but to get so large a percentage as six men who were able to carry loads to the terrific height of 27,000 feet is in itself remarkable, considering the way the men had to be chosen ; for, after all, with the exception of certain old hands, they were picked from a crowd of men who had come for daily labour to Darjeeling.

I will leave it to other members of the Expedition to give an account of the personal prowess of its members, but I must draw attention to the results of the Expedition.

It is perfectly clear that the summit of Everest can be reached—certainly with oxygen, and in all probability without it—for there is no doubt that the very severe conditions experienced before the weather cleared up left the members of the Expedition less fit than they otherwise would have been.

We have quite clearly increased the standard of expectation. Who would have thought four years ago that men could climb without oxygen to over 28,000 feet ? Who would have thought that three ascents between 25,000 feet and 27,000 feet would have been accomplished inside the same week by the same climber ? And who, again, could possibly have forecast that men were to be found who could possibly carry loads to a height of 27,000 feet ?

A slight addition has also been made to the geography of the mountain. The West Rongbuk Glacier and its neighbourhood have been surveyed, and other additions to the map have been made at the head of the Dzakar Chu. Another great Himalayan gorge also has been further explored, the Ringshahr.

Later on, no doubt, Major Hingston will give an account of his physiological observations on members of the Expedition, and he has brought back also an immense collection of insect and plant life.

I will now hand the story on to Colonel Norton, who will tell you about the *personnel* of the Expedition.

### III. THE PERSONNEL OF THE EXPEDITION

Lieut.-Col. E. F. Norton, D.S.O.

I feel that an account of an expedition which omits some description of the members is a sadly colourless business. I should like to be able to make these men real flesh and blood to you instead of mere lay figures. Unfortunately the time available is too short for me to hope to do this, even had I the talent, and I must content myself with a very brief introduction.

I have an uncomfortable feeling that, as I go on, you will conceal a smile at what you may term a mutual admiration society. I would be the last to suggest that we were a party of little tin saints, but it is a matter of common knowledge that expeditions involving some hardship have a way of bringing out the best that is in every man and of obscuring his faults. In this lies the greatest virtue of such enterprises. It is not my business to-night to talk of the faults.

When *General Bruce* went sick we sustained a loss which—irreparable as the loss of such a leader must be to any expedition—was doubly so in an exceptional year. For it was just in the conditions which we met this year that General Bruce's well-known influence over our Himalayan *personnel* might have made so great a difference.

Yet it must not be forgotten that we owe him much of what was achieved this year. To him must be given the credit of having collected the very strong party we were, for with him rested the last word in the selection of the British members, and it was he who actually chose the porters and other Himalayan establishment.

The very name of Bruce is a charm to conjure with all along the Himalaya, but more particularly in and around Nepal. He it was who, by his treatment of the people of the country great and small, consolidated the permanent way across Tibet which a Mount Everest expedition now follows so comfortably.

I would add that—much as I appreciated the chance of leading this year's party—no one recognizes more than I do what we lost when we lost our leader, and it was with nothing but regret that I got my opportunity under such circumstances.

I think every one will agree with me when I say that the first task of an Everest expedition is to get to Mount Everest. So I speak next of the man who virtually took us across Tibet to the mountain, and well up its slopes to the higher glacier camps.

Without *Geoffrey Bruce's* previous experience and sound advice we should often have been sadly at a loss on our journey to the Base Camp; and, arrived there, it was organization which established Camps I., II., and III. in record time. But first and foremost it was Geoffrey Bruce who ran our porters: he it was who disciplined them, who attended to their wants and comforts, and who put heart into them when they were down on their luck. For he is gifted with the power of leadership, inherent in the first instance, and practised in eight consecutive years of war.

I think that if our porters were asked to sum him up their verdict would be: "The Captain Sahib is a hard man—but a just. Skrimshanking and malingering are useless with him, and he has an unaccountable lack of sympathy with the common failings of mankind;

perhaps he is a teetotaler. But he knows us and understands us and our language ; when we are really in trouble he is the man to go to. Further, he will never demand of us anything he is not prepared to do himself."

Bruce is emphatic that he is no mountaineer : then he is a very good imitation of one. Two years ago he established with Captain Finch the world's record by reaching a height of 27,200 feet odd. This year, when we re-cast our plans halfway through the campaign, he was selected to go with Mallory on the first attempt as being undoubtedly the fittest and strongest of us. Unfortunately, he temporarily strained his heart carrying into camp (at 25,500 feet) the loads of porters whose strength failed them short of camp. And so he could take no further part in the high climbing.

To my mind *Somervell* shares with Mallory the distinction of having been one of the mountain's two most formidable antagonists.

His physical toughness is remarkable : in 1922 he reached a height of nearly 27,000 feet, and was the only one of those who went high to be absolutely unaffected. His holidays in the Alps have always taken the form of climbing one first-class peak per fine day for weeks on end. This year his going power high up was seriously affected by a very bad cough and sore throat—the "high altitude throat" which attacked so many.

But Somervell has—as had Mallory—a moral reserve on which he draws to make good any physical disabilities, so that it hardly matters whether he is fit or not—he is always fit to go high on Everest ; and it was this reserve of determination which carried him this year to the North Col under circumstances of which you will hear again, and later to a height of 28,000 odd feet without oxygen.

Gifted with an exceptionally quick and versatile brain he is a surgeon by profession, an artist and musician in his spare time. One of the most familiar sights on the expedition was his figure perched on a rock sketching, or, surrounded by itinerant Tibetan musicians, jotting down their music on the back of an envelope. Not the least interesting thing in an interesting personality is that he has deliberately chosen to apply these many talents to the duties of surgeon in a Mission hospital in remote Travancore in preference to a sure success in Harley Street.

*Odell* shared one characteristic with Somervell : he acclimatized slowly. We did not in time this year draw what may well be the logical inference—that in this, as in other matters, slow is sure. Certain it is that these two slow acclimatizers have achieved more with less physical deterioration than any one else in our brief record of really high climbing. I feel that Odell was never given the opportunity he should have had this year, and that our chances of success were prejudiced thereby.

Odell's reputation as a mountaineer and an explorer is known to

most of you. Being also a scientist and a mechanic, he shared with Irvine the labours and responsibilities of the oxygen apparatus besides organizing the important department of high-altitude cooking with Primus or Meta stoves.

As a geologist not the least of his achievements was the discovery of the long-hoped-for fossils at a height of over 25,000 feet.

It was the famous firm of Odell & Irvine which gave so fine a display of the most unselfish team work in a year when team work was a salient feature. I refer to the way in which they created the rôle of supporter on the North Col.

Having experienced to the full the meaning of such support, I speak with feeling. On its way up the mountain each party was welcomed by the Old Firm, its tents were allotted, it was fed, waited on, and served in every way. I leave you to guess how these attentions were redoubled when the same climbers returned somewhat the worse for wear after going high, and the supporters met them with lights and drinks well on the Everest side of the North Col and took complete charge of the weary party.

Odell alone has carried out the last and hardest task of a supporter—the forlorn-hope search for a party fatally overdue.

If the performance of these duties denied him his chance of the top it gave him another opportunity: it gave him the opportunity of beating all records for continuous climbing at really high altitudes. For in addition to three previous trips from No. III. Camp to the North Col—one successful and two abortive—he in ten days did this same climb three times, and went from Camp IV. once to 25,500 and twice to 27,000 feet. The astonishing thing about this performance is that he finished up very little the worse for his exertions.

The stars in their courses fought against *Beetham*, and so deprived us of the services high up of a mountaineer of exceptional speed and endurance.

Passing through Sikkim on the outward march he contracted a severe go of dysentery. By sheer determination and force of character he recovered by the time we reached the Base Camp from an illness that would have sent many of us back to the Swedish Mission in Sikkim. Just as he was getting fit again at the Base Camp he was attacked by sciatica and badly crippled.

Heartbroken at being out of all that was going on, he got out of bed and, defying doctor's orders, he struggled "dot and carry one" up to No. III. Camp—determined to cook, to carry, to do anything to help the rest of the party. But here it was so evident—despite his sedulous efforts to conceal the fact—that he was a cripple that his brutal leader had to return him to the Base.

He contributed the majority of the still photographs this year, and

the public will have the chance of judging the very great success of his efforts in this direction.

But his whole heart was above the North Col.

I can only say that if an indomitable spirit coupled with every physical qualification of a first-class climber is what we want on Everest, you should hear of Bentley Beetham again. No mountain in the world can stand against the concentrated rage that he will bring to bear on his next attempt.

*Hazard*, like Odell, acclimatized slowly, and that his part in the high climbs was not a greater one may be largely attributed to this. He went to 25,500 feet, and, on Irvine's departure on the last climb, took his place as supporter on the North Col, to which he had already twice escorted convoys of porters.

When, heartily sick of the squalor and discomfort of high-altitude tents and feeding, we left the Base Camp for our little holiday among the trees and flowers of the Rongshahr valley, Hazard volunteered to lead a survey party back to the ice and snow of the West Rongbuk glacier, of which the reconnaissance was regarded as a task of some importance. Undeterred by the breaking of the monsoon the day after he started, he successfully carried out this operation, and we owe the results achieved to his hardihood, for—with the exception of Beetham, whose photographic skill was needed in the Rongshahr—no one else would have volunteered for a prolonging of conditions of which we had had more than enough.

*Hingston* was our doctor and naturalist.

The qualities required for a doctor on an expedition of this sort are peculiar. Medical skill is one of them, and Hingston was well qualified in this respect.

Far more important are the human qualities of common sense, sympathy, and energy; the power to detect unerringly the really sick from the fancied sick, the power to enlist the confidence of the simple hill-folk with whom we had to deal. It was the possession of these qualities that made our doctor the right man in the right place.

As a naturalist he probably enjoyed the whole expedition even more than any of us; and when I tell you that his collections include some ten thousand specimens it will give you some idea of his industry and keenness. Every stone in Tibet was to him a potential gold-mine, for under it might lurk something really fascinating—such as a tick.

Hingston professed himself no mountaineer, and I believe he was right in that he has only a limited experience of ordinary snow slopes in the Pamirs, and has done no climbing in the Alpine sense. But it was characteristic of his all-round efficiency that he once escorted a blind man down the 2000 feet of formidable ice cliffs, snow slopes, and glacier



between the North Col and No. III. Camp, placing his every footstep and holding him up in complete security in a style that would have done credit to an Alpine guide.

*Shebbeare* is in the Indian Forest Department : his work has taken him much into the foothills of the Himalayas in Bengal ; consequently he talks Nepalese and knows and understands the hill-men. These qualifications helped to make him the valuable transport officer he was.

But it was his temperament that made him so great an asset to the party. Not for nothing has he the reputation of being the most popular man in the Darjeeling district, for he is peculiarly gifted with those qualities of good nature, equanimity, and sympathy which made him as popular with our porters as with the British members of the party.

Hence it was that once he was established as king of Camp II. i/c of lines of communication, we never had to give a thought to this department, no less important on an expedition of this nature than in war, while the porters were content in the knowledge that they had a " father and a mother " in the old " she bear."

The name of *Noel* is as familiar to most of you as his work.

This year he specialized on the cinema, leaving most of the still photography to Beetham. The results of his most assiduous labours and of his organizing ability will speak for themselves. It is more of his part as a member of the expedition that I would speak now. For though he ran his own separate organization he was out to help the main expedition in every way, and his arrangements were so detailed and perfect that he was often able to supply us with equipment or man power when these were most welcome. Even now I cannot think of his little tins of potted meat without emotion.

From the loan of a magnesium flare as a distress signal to an offer to act as supporter up to any height there was nothing he was not ready to do for the furtherance of our schemes. As he is entirely unaffected by cold and hardship, and has a happy gift of hitting it off with the hill-men, he was a most valuable member of the party, apart from his technical skill in his own department.

In two years *Mallory* and I have spent many weeks together in a small tent ; we were friends, and if you share a tent with a friend you get to know him very intimately.

Mallory had an ideal figure for a mountaineer, but it would have made little difference had he been of an inferior build—so entirely did his spirit dominate the flesh : of him might have been written the lines

" If you can force your heart and nerve and sinew  
To serve your turn long after they are gone,  
And so hold on when there is nothing in you  
Except the Will that says to them, ' Hold on.' "

A fire burnt in him, and it made him one of the two most formidable antagonists Everest has ever had. He was absolutely determined to conquer the mountain, and no one knows better than I do how for several months this year he devoted his whole mind and will to this object.

At the same time those who suggest that he may have taken chances to achieve success in his last climb misrepresent him. For equally strong as his will to conquer was his sense of responsibility as leader of a party, and I know that he was prepared—nay, determined—to turn back however near the summit if it could not be reached in time to return in safety.

To his organizing power, his remarkable gift of concentration, his genius for detail, and his true appreciation of the task before us we owed this year much of our plans and much of our organization on the mountain.

In the Mess he afforded a marked contrast to what he was when actively employed : his temperament was singularly æsthetic and cultured for such a man of action. Impatient by nature, time had taught him a great patience, and this was one of the things that made it so pleasant to work and plan with him.

Such was Mallory. His death leaves us the poorer by a loyal friend, a great mountaineer, and a gallant gentleman.

*Irvine* was once referred to by General Bruce as “ our experiment,” for he was young—twelve years younger than the average age of the party—his mountaineering experience was limited, and he departed from what we considered the true Everest type in being big and strong rather than light and limber.

It did not take him long to justify the experiment. If he was young he was a man full grown mentally and physically, and at once took his place with all modesty on equal terms with the rest ; if he was an inexperienced climber he proved one of the fastest of us, and I believe, though I never actually climbed with him, as sure and safe as any. If he was on the heavy side he was strong and active to a degree.

Mechanically he was a genius : from a broken camp chair to the more complicated valves of the oxygen apparatus, nothing came amiss to him. His tent daily assumed the aspect of a fitter’s shop ; here until late at night he would be found hard at work on the oxygen apparatus or doing some job for a friend who had long been tucked into his warm blankets.

He was always the willing horse.

Selected to take part in the first attempt with oxygen, he was, in our revised plans, relegated to a later attempt, giving place to others who were to try first without oxygen ; as a result he, with Odell, became a supporter on the North Col. He never even hinted at disappointment, but tackled with unselfish energy and his usual enthusiasm the part of cook or scullion or nurse to a cripple.

That Irvine was loved by all of us for his cheery unselfishness, his

camaraderie, and his manly qualities goes without saying. It is perhaps more significant that he was loved by the porters, not a word of whose language could he speak.

Together these two went up the mountain for the last time : higher than ever man has been before they were last seen—one giving a hand to the other, and then—they were seen no more.

Could either have wished for a better friend to hold his hand at the crossing into the unknown land beyond ?

#### IV. THE JOURNEY THROUGH TIBET AND THE ESTABLISHMENT OF THE HIGH CAMPS

##### Captain Geoffrey Bruce, 6th Gurkhas

The route taken this year across Tibet was almost identical with that of 1922. The uplands between Phari and Khampa Dzong, particularly the Dongkar-La, were as usual bleak and cold, but with the experience of 1922 behind us we were able to travel in far greater comfort than before. The baggage train consisted again of over 350 animals—yaks, donkeys, and bullocks—changed at each Dzong (capital of a district) along our route. This year we had very little difficulty over transport arrangements. Several of the Dzongpens we already knew. One and all seemed pleased to see us, and to do what they could to help us on our way.

From Khampa Dzong onwards there were no hardships or difficulties to speak of. Evenings, on arrival in camp, were generally spent in oxygen drills, conferences about plans of climbing the mountain, and so on. Beetham was very unlucky in suffering from an attack of dysentery in the early part of the march, but he refused to give in, and by the time we reached the base camp he had almost got over it.

On April 23 the Expedition arrived at Shekar Dzong. Our old friend, the Dzongpen, rode out to meet us, and it was at once obvious that he was ready to give us every assistance. Everest itself lies in his district, and it was a very great comfort to know that we had this capable and straight-forward man to deal with. Our two days' stay there was busily spent in arranging with the Dzongpen for grain, meat, and fuel to be regularly supplied to the Base Camp during the next two months. He also gave us much personal help in collecting coolies to be used on the glacier in addition to our own specially enlisted porters. These coolies will be mentioned again. Four days later (April 28) we camped at the Rongbuk Monastery, only 5 miles from the site of our Base Camp. Unfortunately, the Lama was ill and unable to see us, or bless the porters as he did on our way through in 1922. We sent the interpreter to him with messages and presents—among the latter a yak-load of cement which he had specially asked for in 1922 for repair work to his monastery.

The following day we came to the end of the four and a half weeks' trek from Darjeeling, having experienced no really unpleasant weather the whole time. But conditions at the Base Camp were quite different. We arrived with snow falling and a bitterly cold wind. We were soon into all the warm clothing we possessed, and then buckled to the task of establishing the camp and sorting out stores and equipment ready to push up the glacier on the morrow. It had been decided to reoccupy the old sites of Nos. I., II., and III. Camps, and to have them established for the first attempt on the summit to take place on May 17. The position and heights of the camps were roughly :

Base Camp, 16,500 feet.

No. I. Camp at the junction of the Main Rongbuk and East Rongbuk Glaciers, 17,800 feet.

No. II. Camp, halfway up the East Rongbuk Glacier, 19,800 feet.

No. III. Camp, on the snowfield at the head of the East Rongbuk Glacier close under the North Peak, 21,000 feet.

Following this, Odell and Hazard were to reconnoitre and construct the route up the North Col. Odell and I were to establish Camp V. and return ; then two simultaneous attempts should start for the summit, made by Norton and Somervell (without oxygen) and by Mallory and Irvine (using oxygen). To this end the tentage, rations, and equipment intended for each camp were selected and put into separate dumps on arrival at the Base, and the four Gurkha N.C.O.'s were entrusted with the important task of establishing Camps I. and II., and, in addition, putting into Camp II. all the loads required for Camps III. and IV., and the high camps on the mountain itself. In order to meet this big demand on portorage and to save our own men we had, through the good offices of the Shekar Dzongpen, started to collect local coolies at Shekar, and continued recruiting them between there and the Rongbuk Monastery. We now had at the Base Camp over 150 of them ready to begin work at once. Their terms were : pay at the rate of four tankas (about one shilling) a day and some rations. They were not to be employed on snow or ice, and requested to be quickly released when the work was done as they had the sowing of their fields to attend to. They undertook to look after themselves as regards tentage and extra blankets, but, as a matter of fact, they scorned the use of either.

On April 30, under better weather conditions, a convoy of 151 Tibetans under three Gurkha N.C.O.'s left the Base Camp for Camp I. Half the Tibetans were to remain in Camp I. and carry up to Camp II. on the next day, while the remainder were to leave their loads in Camp I. and return to the Base Camp for the night. On the following morning we were greeted with the news that of the 75 local coolies at the Base Camp 52 had deserted in the night. This was a very serious matter, and we feared that the Gurkha N.C.O.'s at Camp I. might be experiencing similar trouble. A transport strike at this juncture would effectively

cripple our detailed programme, so Norton, Shebbeare, and I went up at once to Camp I. to see how they were faring. We were greatly relieved to find that there was no sign of discontent among the Tibetans, and that the N.C.O.'s had everything well in hand and running smoothly. While we were there the first convoy from Camp I. to Camp II. was just returning. It consisted of men and women. We sat them down in lines and gave them extra rations and a promise of a rise in pay if they completed the establishment of Camp II. by the following evening. They were delighted and showed no inclination to be off home. One of these coolies—quite an elderly woman with grey hair—actually danced a *pas seul*, although she had just carried a 40-lbs. load to Camp II. over rough and difficult ground. Another woman—a mother—had insisted on carrying her lusty baby all the way on the top of her already full load, and now came into camp fresh and smiling. What was more, she and all the others were prepared to sleep again in Camp I., with no tent accommodation or extra blankets, and repeat the performance next day.

No more desertions occurred, and by the evening of May 2 we received a message from the Gurkha N.C.O.'s at Camp II. saying that Camps I. and II. were fully stocked as ordered. In these three days over 180 loads were put into Camp II. That evening all the local coolies were given a large feed and paid off, after which they went off towards Rongbuk in high spirits.

In the mean time our own Porters Corps was organized for work higher up into two parties of twenty each and a reserve of twelve. Briefly, they were to be utilized as follows: No. 1 Party were to go through with some of the climbers to Camp III., establish it, and remain based there for getting the next camp on to the North Col. A day later No. 2 Party were to move into Camp II. for the purpose of working between II and III. The reserve were to remain for the time being at the Base Camp. The Gurkha N.C.O.'s were to be in charge of the three camps to see to the feeding and welfare of every one in them, and to supervise the arrivals and departures of convoys.

The weather had now improved a little, but it was mainly cold and stormy, and the conditions on the mountain looked forbidding. Nevertheless we were able to go forward with the plan. On May 3 Mallory, Odell, Hazard, and Irvine left the Base Camp with No. 1 Party. No. 2 Party started on the 4th under one of the N.C.O.'s; and Norton, Somervell, and Beetham on the 6th. I followed with the reserve party on the 7th, while Shebbeare remained in charge at the base.

Our good luck was not destined to last long. To begin with, poor Beetham, having recovered from his dysentery, now succumbed to a crippling attack of sciatica, which finally prevented him getting on to the mountain at all. I reached Camp II. on May 8. There things were far from happy. Most of the No. 1 Party of porters had been

unable to remain in Camp III., chiefly owing to the failure of No. 2 Party to carry their loads the whole distance from Camp II. to Camp III. Instead they had made a dump on the glacier below Camp III., and the men in Camp III. did not receive their extra blankets or rations, and suffered terribly.

Mallory came down from Camp III. to see Norton, and explained that there had been a temperature of  $-22^{\circ}$  F. the first night there, and very low temperature the next night. The men were all complaining of hardships and looked crestfallen and weary. The situation was a difficult one, and it was fully realized that the *morale* of the porters must at all costs be raised. The first step was to send for Shebbeare to come up to Camp II. and take charge. It was essential that there should be an officer at this camp who could speak the language, and ensure the safe arrival of convoys into Camp III.

It is worthy of note that from the moment Shebbeare came up and established himself as king of No. II. nothing ever again went wrong on the lines of communication.

In the mean time Somervell with a few men of the No. 2 Party got off to relieve the food situation at Camp III. The rest of the day was spent by Norton and Mallory in revising the plan, while I endeavoured to put some heart into the men. On the whole the results were good, for on the following morning Norton, Mallory, and I with a convoy of twenty-six porters left for Camp III.

The route over the glacier was somewhat changed from 1922, for instead of crossing the trough we followed along it for quite a distance. Here the scenery was wonderful, but one was in no mood to enjoy it. This part of the glacier is within the "gates of altitude," and in addition produces a special brand of lassitude which saps one's energy and enthusiasm for anything. Fantastic blue pinnacles surrounded us like a forest—some of them gigantic when we entered the trough, getting smaller as we emerged on to the glacier itself. The glacier surface consisted of absolutely smooth ice, varied by depressions and cracks full of powdery snow. Snow began to fall shortly after we left Camp II. It continued to fall all day, getting heavier and heavier and finally assuming proportions of a real blizzard, which was to last for forty-eight hours. The porters at Camp III. were wretched; the cold was getting at them badly. Many became so apathetic that they would not even attempt to cook food for themselves, although I pushed Primus stoves and oil inside their tents for them.

Wind and snow continued that night with unabating violence; the snow drifted into our tents to a depth of an inch or two, making everything miserably uncomfortable. Morning came and the snow stopped falling, but fallen snow was being hurled along the surface of the glacier by the wind, producing the same effect as a blizzard. Kami, our cook, rose manfully to the occasion, and produced for breakfast at about 10 a.m.

an unrecognizable mess in a Primus stove, followed an hour later by extremely unpalatable tea, which had been brewed in the same greasy pot. Still, it was hot and comforting, and we shall always be grateful to the faithful Kami.

We then reviewed the situation, and it was decided that Mallory and Irvine should move down to II. as a temporary measure and prepare for the possibility of evacuating altogether should the same weather continue. A message was also sent to stop Noel coming up with his cinema outfit, with which he subsequently obtained remarkable results. During the day Norton and Somervell did an excellent piece of work in braving the blizzard and getting down to the dump with seventeen porters and bringing up nineteen loads. As evening came on the wind blew still harder in tremendous gusts from every direction; the tents were again filled with snow, and the temperature fell to 39° below freezing-point.

Now there was no other course left but the evacuation of the whole line. The porters were in a bad way, the climbers were by no means improving, and in any case the North Col route would have been impracticable for several days. But to evacuate Camp III. was no easy matter, for the porters were all huddled up in their tents, having lost the will to move or even cook for themselves. After compelling them to cook and eat, we turned them out and struck camp, leaving tents, stores, and fuel piled in some kind of order.

Then we took to what Norton has described as the "Via Dolorosa," first the wind-swept glacier down to Camp II., then the rough miles of the tumbled moraine; withdrawing every man to the Base Camp with a melancholy procession of snow-blind, sick, and frostbitten men being shepherded down by their comrades. But we knew that everything was ready for us to return up the glacier, and only a small amount of high-altitude stores remained to complete Camp III. for the first attempt.

How had we all stood Round 1? The British members were in good health, and full of optimism. They had all acclimatized themselves up to 21,000 feet. Further, a strong reinforcement had arrived in the shape of Hingston. He had left General Bruce in Gangtok and hastened across Tibet to rejoin us. He was in the nick of time to relieve Somervell of the heavy duties of medical officer. In the Himalayan ranks we were not so fortunate. One man was severely frostbitten in both feet and subsequently died. One man had broken his leg; several had bad attacks of bronchitis, and, worst of all, the Gurkha N.C.O. Shamsheer was in a very serious condition with hæmorrhage on the brain. After twenty-four hours' unconsciousness he died while being carried on a stretcher into the Base Camp. He was a very great loss to the Expedition, and to his regiment, where he undoubtedly had before him a brilliant career.

The weather had by now improved, and after even one day's rest at the Base Camp the men were beginning to look their normal cheery selves

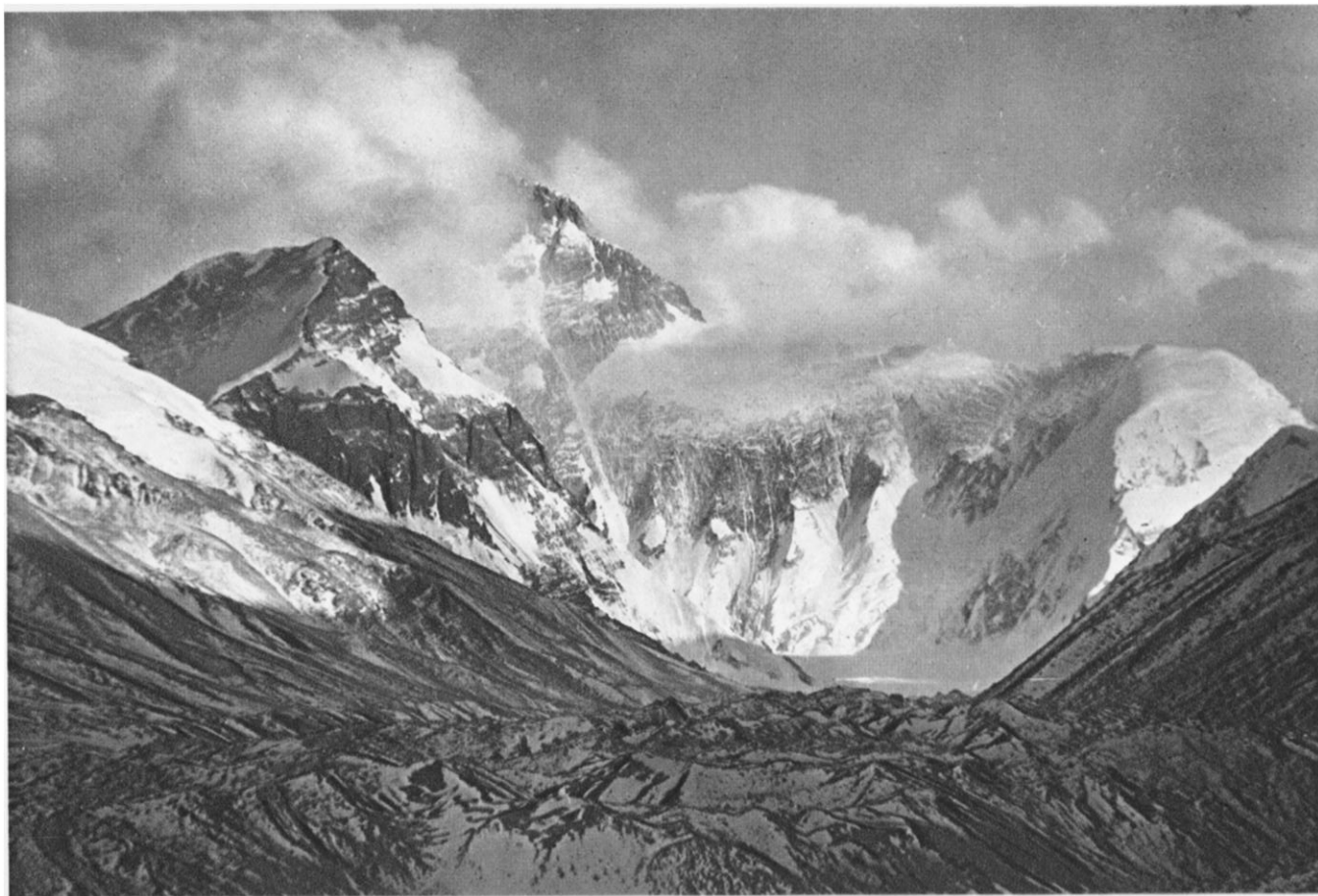
again. They were all very keen to pay a visit to the Rongbuk Monastery, 5 miles down the glacier, and receive the blessing of the Holy Lama, who had now recovered. This was duly arranged to take place on May 15, and was an unqualified success. The Lama conducted an impressive service, and sent them away happy and full of courage for further efforts. That evening in the Base Camp the interpreter Karma Paul—a rather vain youth and apt to be a little carried away by his own self-importance—announced that the porters were very pleased that the interpreter and the Colonel Sahib (note the order) had arranged such a good show for them. A feature of the Base Camp about this time was a herd of Burhel (wild sheep) which came grazing the scanty tufts of grass right down to our tents.

The Lama's blessings had apparently worked wonders with the weather and the men, so after sundry pieces of reorganization the advance was resumed, and by May 19 Camp III. was re-occupied. Round 2 had now begun, and was remarkable for the spirit of team work displayed by everybody, and the excellent comradeship which existed through all ranks of the Expedition.

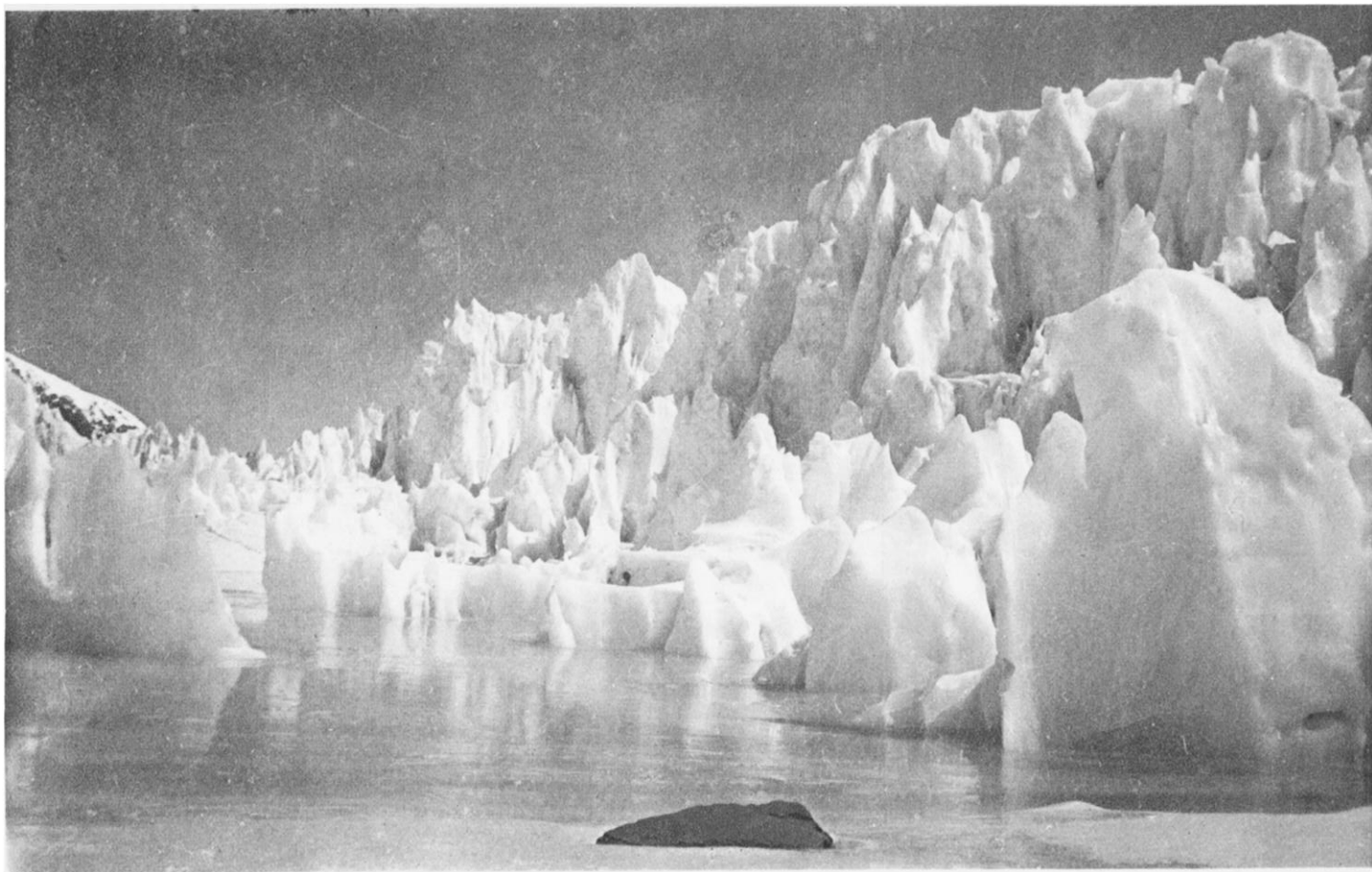
On May 20 Norton, Mallory, Somervell, and Odell left Camp III. to reconnoitre the route up to the North Col—that dangerous wall of ice, like a trap set at the foot of the mountain. Just below the slopes it became evident that Somervell was far from fit, and he had reluctantly to return to camp. He told me afterwards that he had taken his temperature the night before and found it to be  $104^{\circ}$ . It was little short of marvellous how he managed to start at all in the morning. Mallory, too, was suffering from a bad cough, and only his great heart carried him on. However, they succeeded in working out a new route right up to the No. IV. Camp site, designed to be safe from avalanches, and satisfactory except for an ice chimney 150 feet high. The old route looked very unsafe and certain to avalanche. They did a fine day's work, and returned to Camp III. that evening.

On May 21, morning broke warm with a lot of cloud about. Light dry snow kept falling at intervals. This day the North Col Camp was to be established. Somervell, Hazard, and Irvine got off at 8.30 a.m., with twelve porters, their plan being that Somervell and Irvine should return to Camp III. while Hazard remained in IV. till the next day, when Odell and I would arrive there, stay the night, and then proceed to establish Camp V. At 1 p.m. it began to snow in earnest—very soft, wet snow—and nothing could be seen of the North Col from Camp III. At 6.30 p.m. Somervell and Irvine returned, having left Hazard and his twelve men within easy reach of Camp IV. They told us that they had found the ice chimney too narrow for the majority of loads. Somervell and Irvine had established themselves at the top while Hazard directed operations from below, and all twelve loads were hauled up by rope. It was a tremendous effort, and over two hours were thus spent.





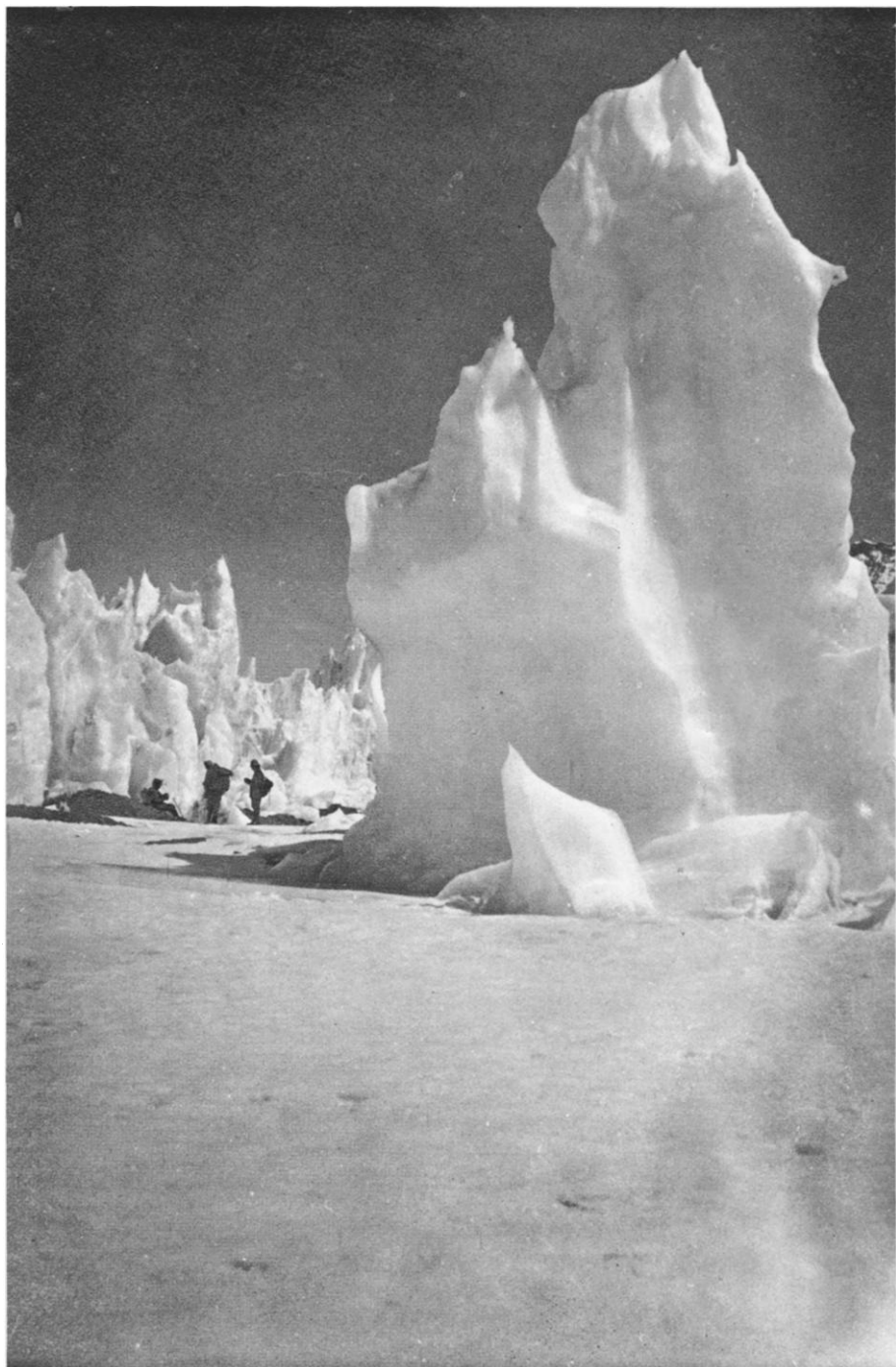
1. THE NORTHERN CLIFFS OF MOUNT EVEREST FROM THE RONGBUK GLACIER



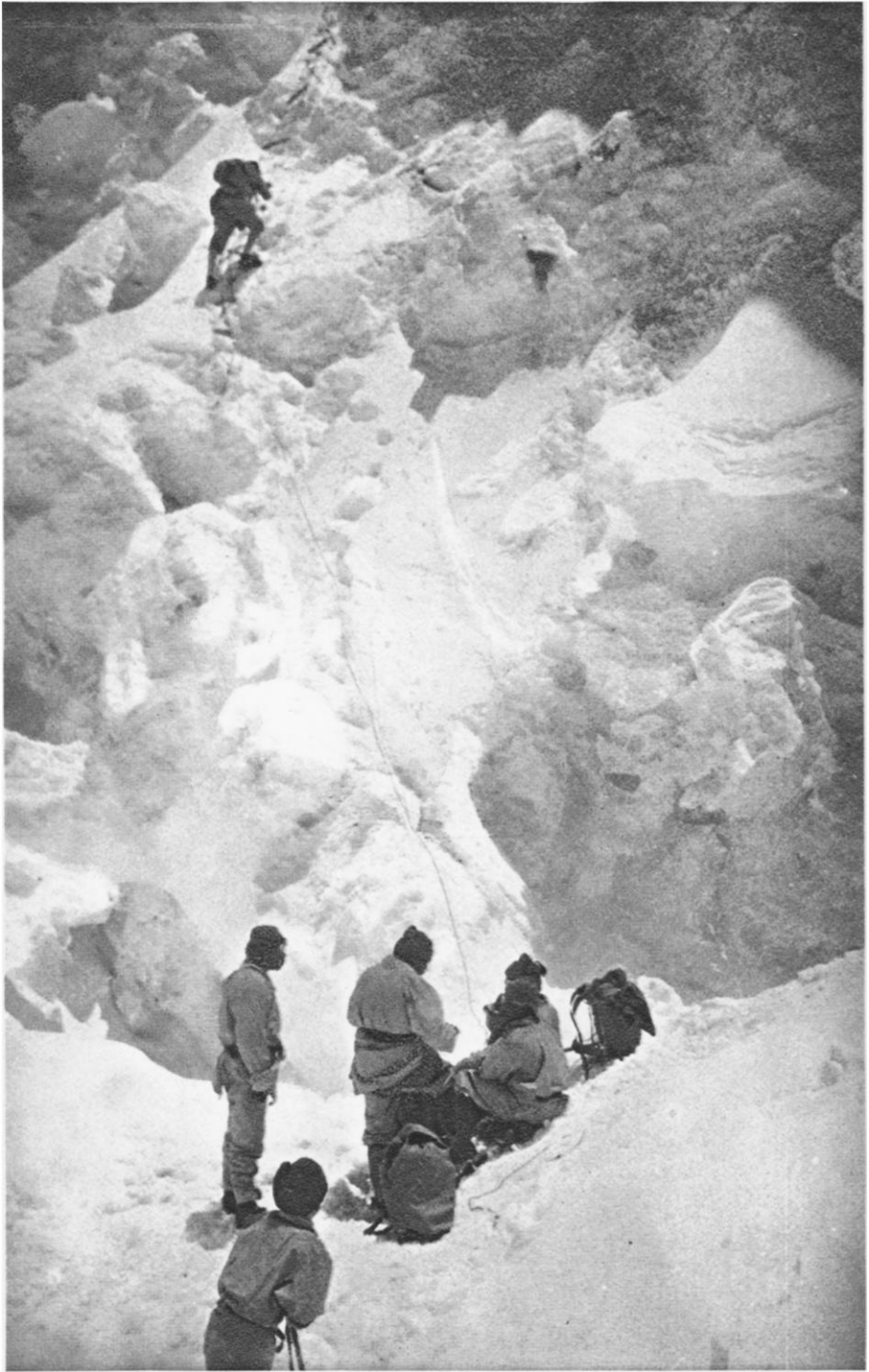
2. ICE PINNACLES AND LAKE, EAST RONGBUK GLACIER



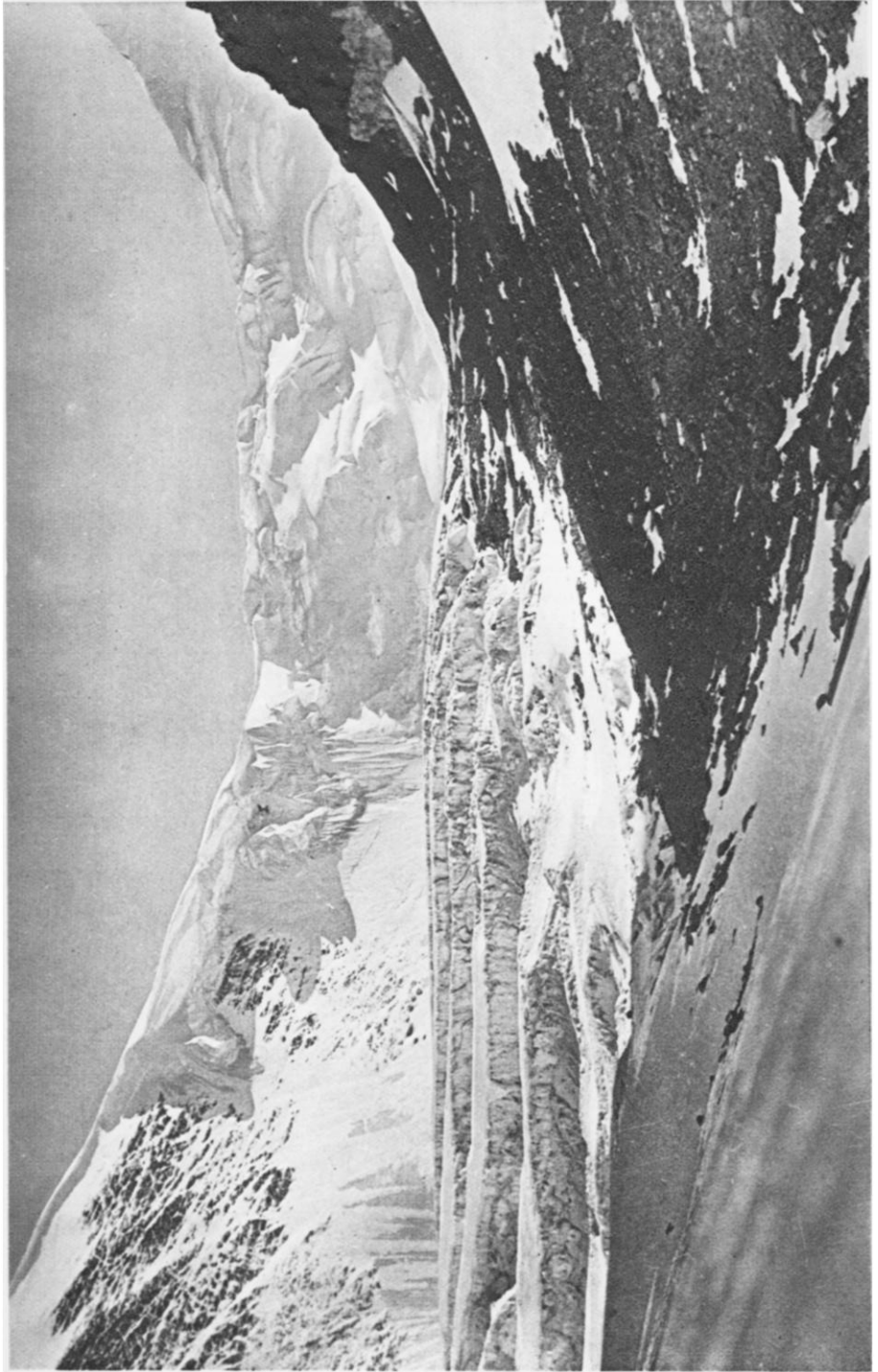
3. THE TROUGH, EAST KONGBUK GLACIER, LOOKING DOWN TOWARDS CAMP II.



4. THE FLOOR OF THE TROUGH, EAST RONGBUK GLACIER

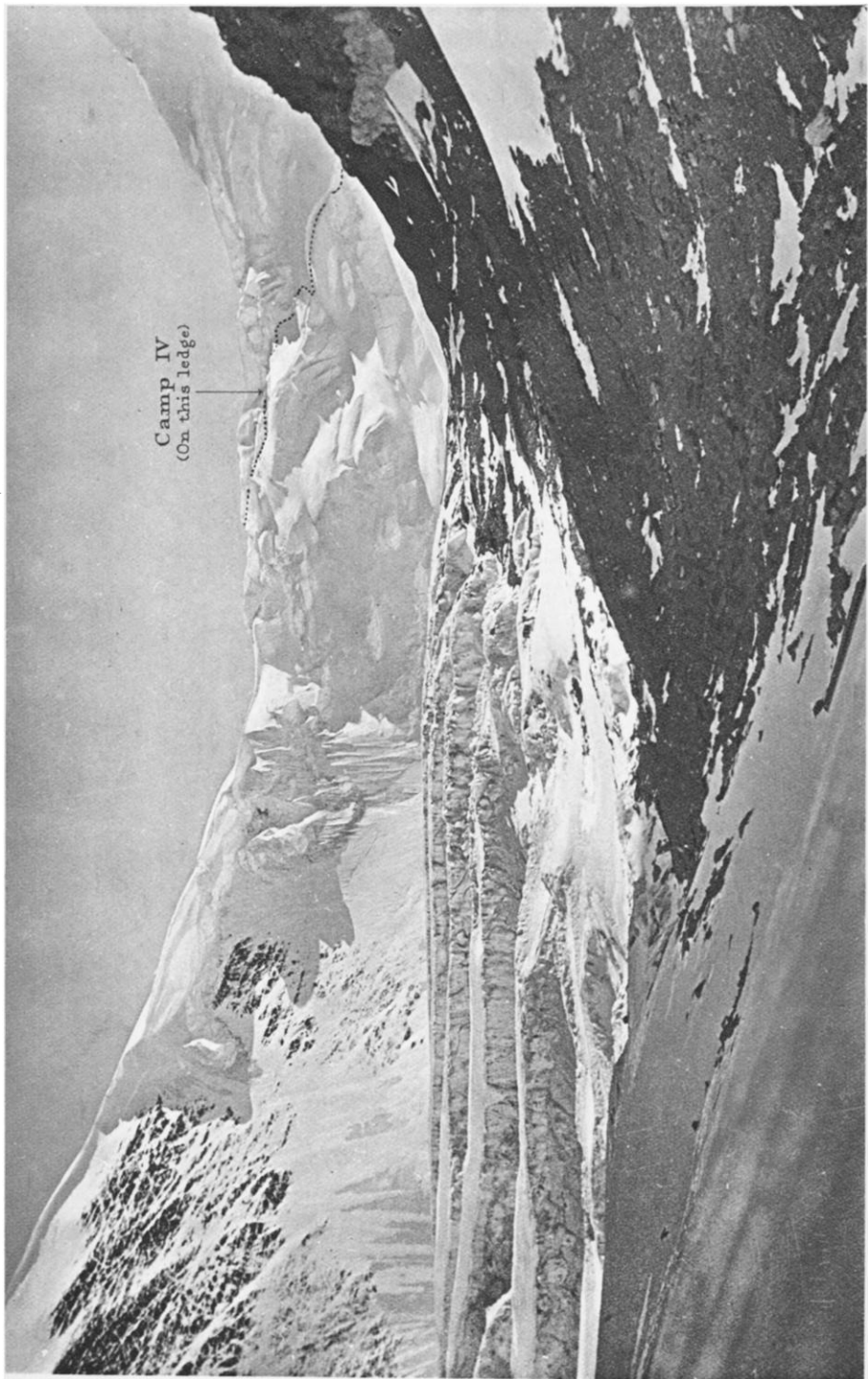


5. THE ROPE LADDER BELOW THE CHIMNEY, SLOPES OF THE CHANG LA



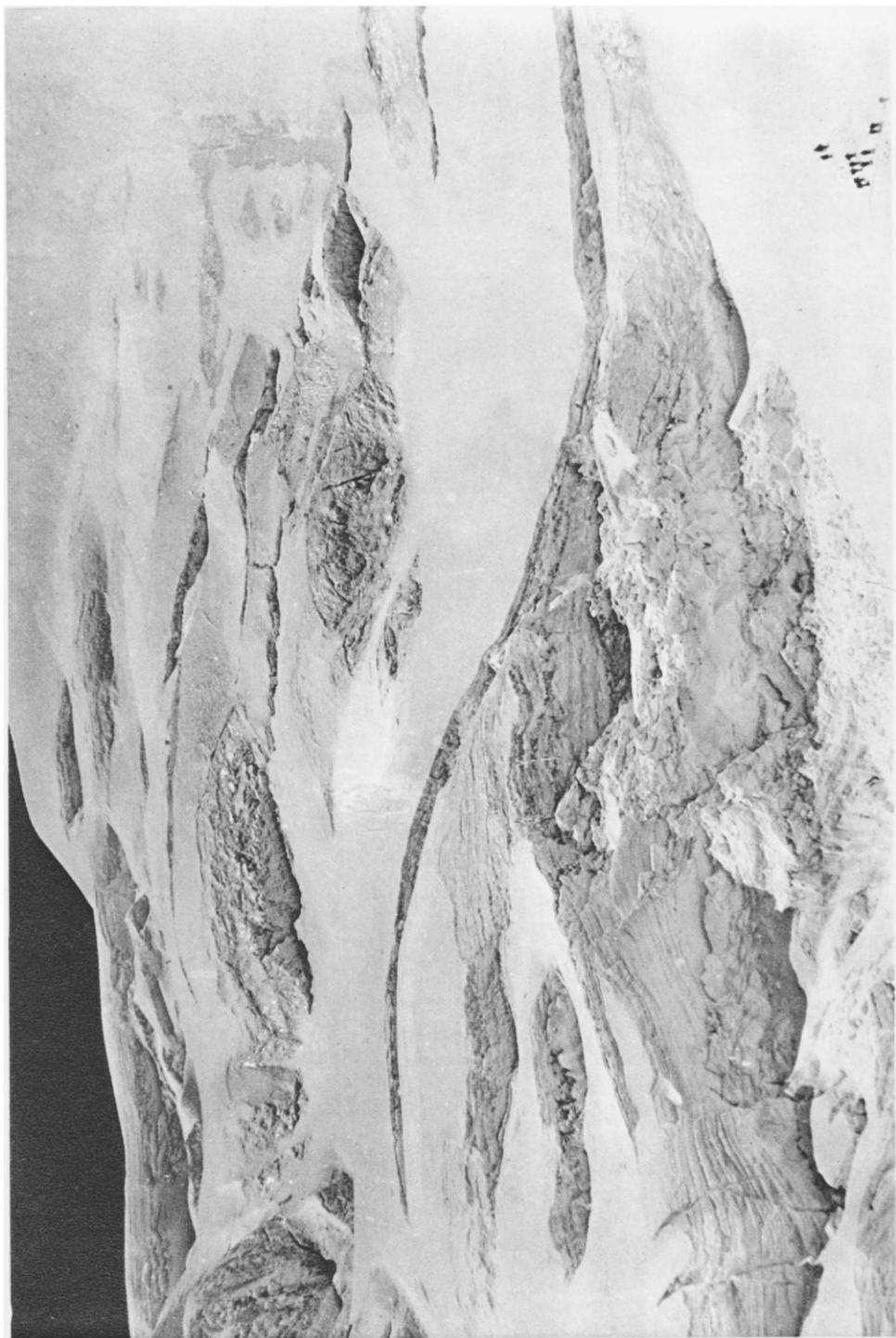
6. THE CHANG LA AND HEAD OF EAST RONGBUK GLACIER FROM NEAR CAMP III.





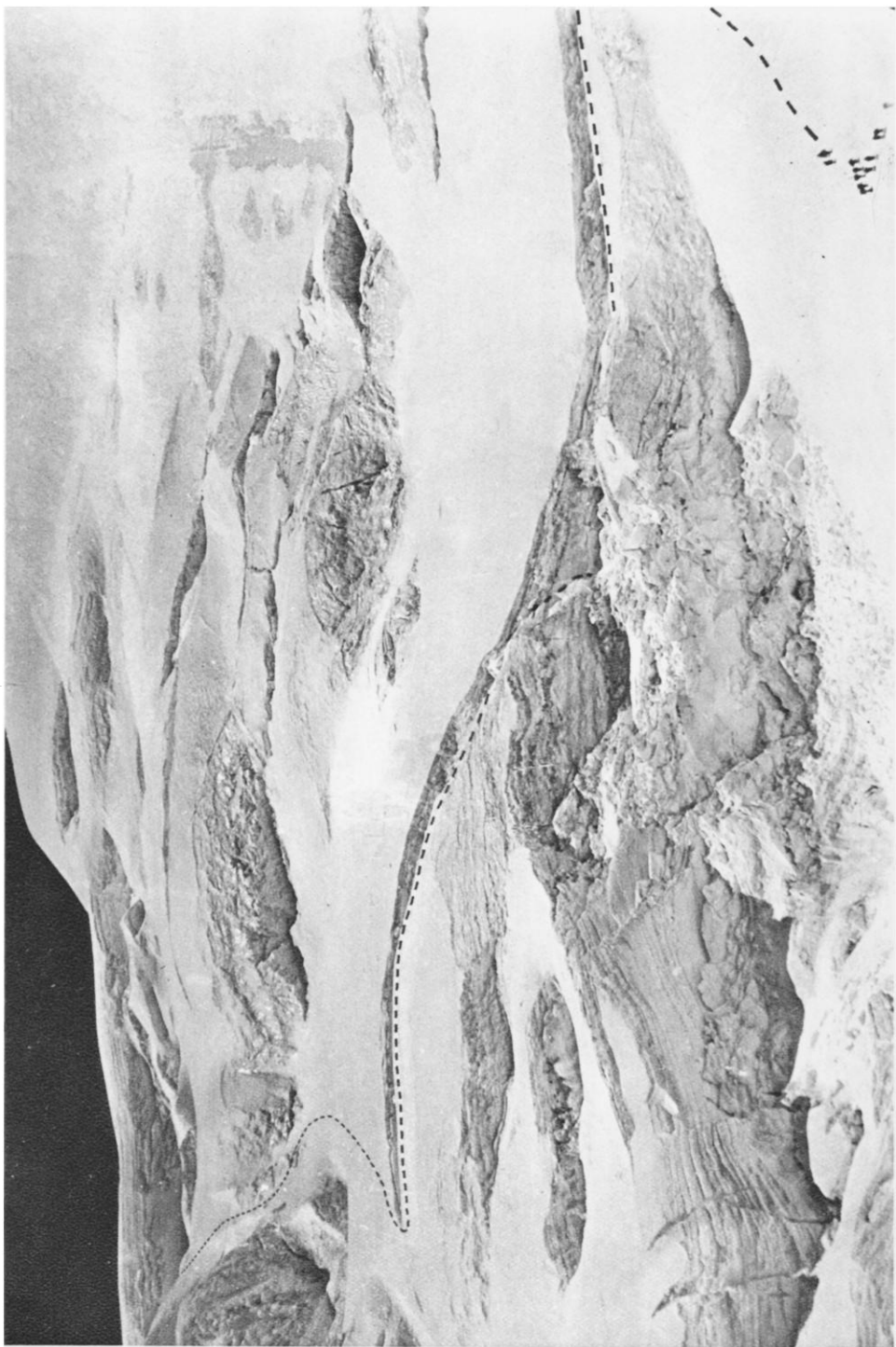
Camp IV  
(On this ledge)

7. THE ROUTE TO THE CHANG LA



8. THE UPPER SLOPES OF THE CHANG LA





9. ROUTE ON THE UPPER SLOPES OF THE CHANG LA



10. THE CHIMNEY



Camp IV

11. ROUTE UP THE CHIMNEY

Cho Uyo

Gyachung Kang

Changtse



12. GYACHUNG KANG AND CHO UYO, FROM ABOUT 25,000 FEET

Phot. by T. H. Somerville



*Phot. by T. H. Somerville*

13. COL. NORTON APPROACHING THE HIGHEST POINT OF HIS CLIMB AT 28,200 FEET



Phot. by T. H. Sauerbrelt

14. LOOKING NORTHWARD FROM 28,100 FEET ON MOUNT EVEREST



Gaurisankar

Pumori

Cho Uyo

Gyachung Kang



15. LOOKING WESTWARD FROM 28,100 FEET ON MOUNT EVEREST

*Phot. by T. H. Somervell*



16. THE MONUMENT TO THOSE WHO DIED ON THE THREE EXPEDITIONS. BASE CAMP, RONGBUK VALLEY



But Fortune had again ceased to smile on us. Snow fell all night and all the following day until 3 p.m. It was quite impossible to do anything but lie in our sleeping-sacks and hope for the best. That night (May 22) the temperature fell to 56° of frost—the coldest ever recorded in an Everest Expedition. The morning of May 23 was, however, an improvement—a cloudless, brilliant day. The wind had dropped, but the air was keen and cold. Odell and I got off at 9.30 with seventeen porters bound for Camp IV. The mountain towered above us, sharp and clear in every detail. The party was going well and all were in good spirits. At one of the frequent short halts on the glacier the men were discussing the mountain and saying how easy it looked to climb. They asked me whether they would be allowed to go to the top or whether it would be climbed by Sahibs only. Again we were frustrated, for shortly after mid-day snow started to fall. Instead of a brief hour's walk to the foot of the Col three hours were required. The slopes of the Col were in a dangerous condition, and we deemed it unsafe to take laden porters on. Accordingly we made a dump at the furthest point reached and retreated to Camp III.

At about 5 p.m. Hazard arrived, but with only eight of his party. While he had gone ahead piloting his men along the steep traverse at the top of the Col, four of them had lost their nerve and remained there marooned. This was a terrible situation, especially as it transpired that a load of mixed porters' rations for Camp IV. had been accidentally dropped over an ice cliff and the marooned party had nothing but barley meal to eat. Further, conditions all seemed to point to a real monsoon current. Norton therefore decided that while the rest of us were to evacuate Camp III. and get the men back to lower camps, he, Mallory, and Somervell were to tackle the arduous and dangerous work of rescuing the four marooned men. Were men ever faced with such a task? They were themselves far below par, from previous exertions and hardship, Mallory's cough and Somervell's throat being really bad. Their chances of being avalanched were considerable. What if they failed to bring off the rescue? What would they do if they found some of the marooned frostbitten and unable to move? The Sherpa porter is very superstitious. These men might by now have gone off their heads with fright and hurled themselves down the ice slopes. The porters told me some days later that during their night on the North Col they had distinctly heard the fierce barking of the watch dogs, guarding the Goddess' abode.

The rescue party can have slept little, thinking over what lay before them, and listening to the soft snow falling and lessening their chances of success. They started from Camp III. about 7.30 next morning, going so badly that their hopes of accomplishing the rescue were very low. Up the Col they led in turns, and so came to the last traverse. This was covered with fresh snow, which looked as if it might avalanche

at any moment. Somervell was now leading. Norton and Mallory belayed the rope and prepared to hold if Somervell slipped. The four marooned porters were waiting on the other side. It was doubtful whether the rope was long enough. Somervell cut steps all the way across, constantly stopping to lean his head on his arm and cough. He reached the end of the rope, and found he was 5 to 10 yards short of the goal. The men must cross to him—with no rope! The first came over safely and proceeded towards Norton and Mallory. Just as the second was joining Somervell the last two men slipped and began to slide towards certain death, but they miraculously pulled up in a few yards. Somervell was now superb, and perfectly cool. He told the two men to remain still whilst he passed the second man back along the rope, joking the while, so that one of the two men sitting shivering on the edge of the ice cliff actually gave a short bark of laughter. They sat like statues. Somervell then drove his axe in up to the head, pulled the rope tight, passed it round his axe, and so made enough rope to reach the men with one arm at full stretch, holding the very end of the rope with the other. He dragged them up in turn by the scruff of the neck and passed them along to safety. It was a first-rate performance.

It was now 4.30 p.m. One man was badly frostbitten in the hands (he subsequently recovered) and two others slightly in feet and fingers. The men behaved splendidly on the way down, but the rescuers had their work cut out to bring them in. In the chimney, Norton held the full weight of the badly frostbitten man no less than four times, and Mallory and Somervell were, as usual, towers of strength. They reached Camp III. at 8 p.m. It was a gruelling day, but a triumphant success.

Meanwhile the second evacuation had taken place, the climbers being distributed at Camps I. and II. So ended Round 2.

We came to the conclusion that after all they had gone through only fifteen of our porters would be fit for further efforts at any great heights. These were collected in Camp I. and formed into a *corps d'élite*, called "the Tigers." On the efforts of this little band our success now very largely depended. It may possibly be thought from this that the Porter Corps as a whole was a failure. Let there be no misunderstanding on this point. True, the majority had shot their bolt, but they had performed some stupendous feats of carrying, often on several successive days, and under terrible conditions. And as for the "Tigers," we never really got to the bottom of what they could do right up to the end.

On May 27 a council of war was held in Camp I., and from this point the story will be continued by Colonel Norton, our leader and the inspirer of all our efforts.

V. THE CLIMB WITH MR. SOMERVELL TO 28,000 FEET  
 Lieut.-Col. E. F. Norton

On our arrival at Camp I. after our second retreat, it was evident that we must re-cast our plans. For neither the very reduced number of dependable porters nor the time available before the threatened arrival of the monsoon justified any hopes of carrying out our full original programme.

Very briefly, the original plan was an attack on the summit by two parties of two on the same day—one with oxygen from a camp about 26,500 feet, one without from a camp about 27,300 feet, the parties to act independently but to afford mutual support if necessary. In the event of failure the programme was to be repeated with necessary modifications by the remaining available climbers.

Our revised plan was settled after two days' discussion at No. I. Camp. In this nearly all the party took part. It was decided unanimously to scrap oxygen and to attack the mountain by a series of attempts starting from the North Col on successive fine days, each attempt to consist of two climbers with the irreducible minimum of equipment and porters.

Our decision to abandon the oxygen and to climb in parties of two were dictated by the following considerations :

As regards the oxygen : Firstly, neither the number of porters on whom we could now count even to reach the North Col, nor the time before the monsoon, which we expected any day, were sufficient to enable the necessary number of oxygen cylinders to be got up, for so far we had only got a few cylinders to a dump halfway up the slopes to the North Col.

Secondly, the verdict of Odell and Bruce—the only ones so far to test the oxygen apparatus—was very pessimistic as regards its effects.

As regards the parties of two : First, there being only seven available climbers, the use of parties of three would have cut down the possible number of attempts to two, and it would have been almost impossible to arrange for these to be adequately supported.

Secondly, each attempt would have required an extra tent besides other equipment and stores.

Thirdly, two men climb more quickly than three.

In this connection it must be remembered that the whole of Mount Everest above the North Col is an easy rock peak.

The sequence of parties decided on was : 1st, Mallory and Bruce ; 2nd, Somervell and myself. Odell and Irvine were to be in support at Camp IV. and Hazard at Camp III. The last three were to constitute a reserve for a third attempt.

On June 1 Mallory and Bruce started on their attempt from the North Col, where Odell and Irvine were already established. Somervell

and I slept that night at No. IV. Camp. On June 2, the weather being still fine, we two started at 6.30 a.m. with six porters, who carried loads of 20 lbs. or slightly less, for No. V. Camp, which Mallory and Bruce had presumably established the day before.

No. IV. Camp lay some 200 yards north of the actual Col, to reach which it was necessary to cross a confused jumble of ice and snow cut up by crevasses. Hence you emerge on to the Col and traverse it just below its crest on the further (or western) side. At this point we suddenly found ourselves in shadow and exposed to the full force of the west wind, which blighted us as the first frost of winter blights the dahlias.

The whole of this day's climb and the next was so uneventful that there is little to say about it. We followed the blunt angle which roughly divides the north face of the mountain into two parts. This is known as the North Ridge, and connects the North Col with the North-East Shoulder.

The route was familiar to us from our experience of two years before. The going is all slabby limestone rock at a fairly steep angle, varied by frozen scree with occasional patches of snow, and is entirely without difficulty or danger. When descending it is possible, by deviating a few yards, to glissade down on good hard snow for the last 2000 feet above the North Col.

After climbing for some time we were much disconcerted to see Mallory, Bruce, and their porters descending to meet us. Their explanation was simple but conclusive. Apparently the wind on the previous day had completely taken the heart out of their porters, and this morning not even Bruce's influence and command of the language could induce them to go any higher.

This breakdown of the first party enabled us to reduce our porters to four, one of whom climbed unladen, as a reserve man.

No. V. Camp, where we spent the first night, was pitched a little on the eastern side of the ridge, and so was somewhat sheltered from the west wind. Here, on the morning of June 3, I had some difficulty in inducing three of our four porters to continue the ascent. Their condition had not been improved by the fact that two of them had been injured by a fall of stones, probably dislodged from the crumbling platform built up for our tent; one of these men had a nasty gash across the knee-cap.

I owe it to the three men who came up to the scratch that you should hear their names. They were Narboo Yishay, Llakpa Chedi, and Semchumbi, the last having the cut knee. All honour to a gallant man. He was lame for two months after.

No. VI. Camp was pitched in a cleft in the rock on the actual ridge, and we estimated its height at some 26,800 feet. Its position was dictated principally by Semchumbi's knee and the necessity for getting the porters down to No. IV. Camp in good time.

I have little doubt that, on a future occasion, some improvement could be made on the heights of both Nos. V. and VI. Camps ; this is one of the factors on which I base my confidence in ultimate success.

At both Nos. V. and VI. Camps we spent the evening in the hateful routine of high-altitude cooking.

It sounds simple. While one member of the party fetches snow from a neighbouring snow-bed his companion gets the cooker going and opens tins of food, such as pemmican, sardines, biscuits, jam, sweets, and tea. More trips to the snow-bed follow to enable thermos flasks to be filled for to-morrow's breakfast and climb, and for washing up.

I can give you no better idea of the conditions in which one works at these altitudes than by telling you that these apparently simple operations are most exhausting and call for some determination.

We spent very fair nights at both high camps ; in fact, I slept really well at No. VI. Camp, which proves that we had learnt something of how to make the best of a high camp since the time two years before when four of us spent what I might describe as a most unfair night at 25,000 feet.

The first entry in my diary for June 4 is " Somervell pretty seedy with throat." I have already mentioned this throat trouble ; it was much aggravated at these heights by the repeated intake of cold dry air catching the back of his throat.

He was handicapped by this throughout these three days. Late this same evening he very nearly choked, and was only saved by coughing up the obstructing matter along with a lot of blood. That he achieved what he did in this condition was a remarkable performance.

We started at 6.40 a.m., having been much delayed by the necessity of boiling snow for breakfast, for our thermos flask had got rid of its cork in the night, and shed its contents inside my sleeping-bag.

I have not much to say about the climb, and this not by reason of any dulling of the intellect or memory—for this is, I believe, a myth—but because there is so little to tell.

The weather was ideal, with singularly little wind. Even so, clad in two suits of windproof clothing and two sweaters, I found it very cold. Sitting in the sun I shivered so much that I once thought I had fever on me, and took my pulse. I was surprised to find it only some twenty above normal.

But against men in our condition the lack of oxygen was obstacle enough even in such favourable weather. Our pace was lamentably slow ; on anything like a steep slope I consistently failed to realize my ambition of achieving twenty consecutive steps without pausing with fore-arm on bent knee, to puff and blow. Somervell's throat further slowed him down. We had to sit down and rest frequently.

So long as all went smoothly one achieved some degree of mechanical plodding, but trip or slip and the effort at recovery set one panting

furiously to make up for the deficit of oxygen caused by the extra exertion. Step-cutting in the rare patches of hard snow was exhausting work.

After a short distance on limestone scree and a few small snow-beds, we got on to the 1000-foot deep band of yellow sandstone which runs nearly horizontally across the whole face of the mountain. We traversed it diagonally, and headed for the base of the final pyramid, keeping below and roughly parallel to the crest of the north-east ridge all the way.

The going on this sandstone band was absolutely easy and almost devoid of snow until we approached the big couloir which cuts off the final pyramid from the great eastern shoulder of the mountain.

Here, at noon, Somervell finally succumbed to his throat trouble, and I went on alone.

I soon got on to much steeper rock as I turned a corner to enter the couloir. The slabs now were very narrow and sloping, like tiles on a roof; they were frequently covered with snow, which here was powdery like coarse salt and concealed without supporting. The general angle was steep enough to make a slip probably fatal.

I went very slowly and had more than once to retrace my steps and find another route; my rate of progress was also affected by the fact that I was beginning to see double—a premonitory symptom of snow-blindness, I suppose—with the result that by one o'clock I was but a short distance on the western or summit side of the big couloir, and perhaps 80 feet higher than where I left Somervell.

Here, in the shelter, the powdery snow was thickest, and I was confronted with a steep climb of some 200 feet before I could again traverse to the right and so gain the north face of the final pyramid and an easier gradient.

It was obvious I could not reach the summit in time to return in safety, and it was very doubtful if I had the strength to go so far in any case. So I turned back and rejoined Somervell by 2 p.m.

The view from the highest point we reached was, to me, disappointing, as is often the view from an aeroplane, for one looked down on all the surrounding mountains and the beauty of their outline was lost. It was a remarkably clear day, and one could detect snow peaks dimly appearing over the northern horizon like little teeth. They must have been hundreds of miles away.

The descent was uneventful for me, but very painful for Somervell. Nightfall found us on the big snow-bed a little below No. V. Camp, and the electric torch came into use; perhaps an hour later I succeeded in making myself heard at No. IV. Camp, whence we soon saw a light coming to meet us and a voice shouted that they were bringing an oxygen cylinder.

I shouted in reply again and again, "We don't want the d—d oxygen; we want drink." My own throat was not at its best, and I remember how feeble sounded my querulous wail, "We want drink! we want drink!"

losing itself in that vast waste of snow and ice glimmering under the stars. Odell and Mallory met us well above the North Col, and by 9.30 had escorted us into No. IV. Camp, where Irvine was brewing drink for dear life.

As we lay in our sleeping-bags that night Mallory told me how he had organized a new attempt with oxygen. He and Bruce had been down to No. III. Camp to try and collect sufficient porters for an attempt on a minimum scale. This they had done by making use of some of the men who had already been to No. V. Camp with them, supplemented by three or four others whom the continuance of fine-weather conditions had brought up to the scratch.

Mallory had arranged for Irvine to accompany him, and was prepared to start the next day but one. It will be remembered that Geoffrey Bruce was *hors de combat*. I was entirely in favour of the plan, which now represented our last chance of success.

The following morning I was snow-blind and took no further part in active operations. So I now leave Odell to tell the story of the final stage in which he played so notable a part.

## VI. THE LAST CLIMB OF MALLORY AND IRVINE

### N. E. Odell

Norton has described only too modestly his and Somervell's remarkable attempt on the summit and their return to the North Col on June 4, the same day that Mallory and Irvine had come up from Camp III. The latter had climbed the 2000 feet from Camp III. to Camp IV. in the fast time of two and a half hours, evidently in an endeavour to prove to themselves the efficacy of oxygen. June 5 was spent resting at the North Col camp, Irvine and I re-testing and putting final touches to the oxygen apparatus.

A few words may be said on the nature of Camp IV. and its surroundings. Perched on an ice-ledge in roughly the same position as the camp of 1922, it had four tents. A high wall of ice rising on the western side gave comforting protection from the prevailing chilly winds from that direction. The ledge was broad enough and long enough to allow comfortable movement all around the tents and leave an ample margin of clean snow for water-supply—a point that concerned me as camp cook. During my eleven days' residence there I experienced all sorts of weather conditions, not the least remarkable being two days when the sun temperature at midday was 105° F. while the air temperature at the same time was only 29°. I shall never forget some of the sunrise effects over the sea of peaks to the east, Chomo-Lönzo and Makalu standing supreme among them.

To reach the actual saddle of the North Col and the foot of the North Ridge of Mount Everest it had been necessary in 1922 to make a way from the camp ledge towards the North Peak and then back again along the crest of the col. On the occasion of our first reaching the site of Camp IV. on May 20, Mallory and I had forced a rather complicated route from the southern end of the ledge direct up to the col. This route, though a little treacherous from two doubtful snow-bridges, proved to be negotiable until the end.

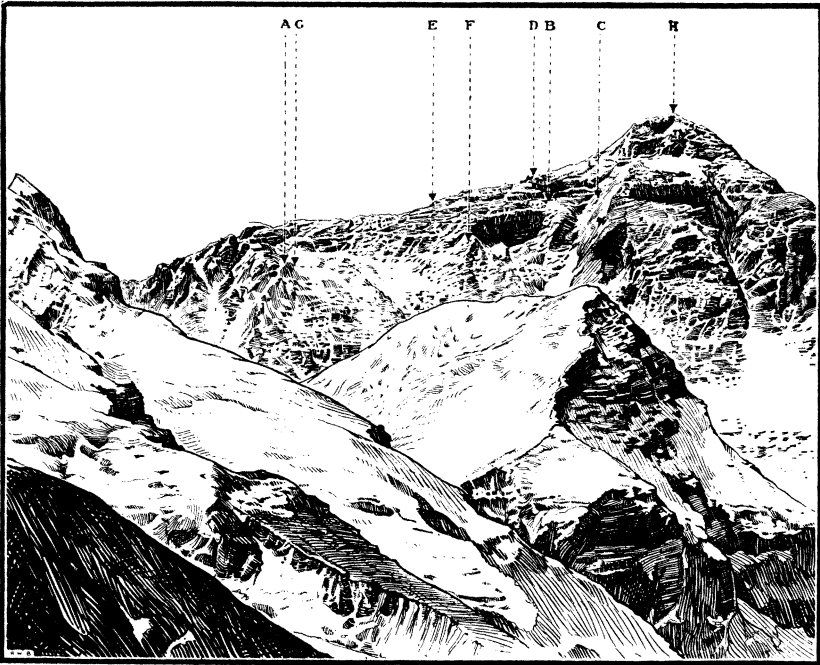
At 8.40 on the morning of June 6, in brilliant weather, Mallory and Irvine left the North Col Camp for Camp V. They took with them five porters carrying provisions and reserve oxygen cylinders. They used oxygen, and in the opinion of the porters travelled well. On June 7, when they were going from Camp V. to VI., I went up in support to Camp V. with the one porter that was available. Soon after my arrival Mallory's four porters arrived from VI., bringing me a message which said that they had used but little oxygen to 27,000 feet, that the weather promised to be perfect for the morrow's climb, and that he was sorry the cooking stove had rolled down the mountain side just as they were leaving Camp V.—which meant a cold supper and breakfast for me. As Nema, my porter, was suffering from mountain sickness I sent him down with the four others to the North Col, and having the tent to myself and a couple of sleeping-bags, I kept sufficiently warm to sleep well that night. Next morning broke clear and not unduly cold. After a breakfast of cereals, and a little macaroni and tomatoes, I started my solitary climb to Camp VI., taking with me provisions for that camp in case of need. My plan was to make a rather circuitous route out on to the northern face, to examine the structure of the mountain. Mist soon began to form, and although the wind remained light I found myself immersed now and then in squalls of sleet and light snow. By the glow of light above me I could sometimes see that I was experiencing worse conditions than Mallory and Irvine probably were at their higher altitude.

At about 25,500 feet I came upon a limestone band which to my joy contained fossils—the first definite forms found on Everest. The lower part of the mountain is formed of a variety of gneisses, and on these rest a mass of rocks, mainly altered limestones, which compose the greater part of its upper half. Here and there have been intruded granitoid rocks, but these are relatively little in amount. The general dip of the series is about 30° northward, and since the slope of this face of the mountain above 25,000 feet is about 40° to 45°, the effect is to make a series of overlapping slabs nearly parallel with the slope and presenting a number of little cliff faces often up to 50 feet in height. These slabs are often sprinkled to a varying depth with *débris* from above, and when to this is added freshly fallen snow, the labour and toil of climbing at these altitudes may perhaps be imagined. It is not the technical difficulty



so much as the awkwardness of a slope usually not quite steep enough for the use of one's hands.

At about 26,000 feet I climbed a little crag, which could possibly have been circumvented, but which I decided to tackle direct, more perhaps as a test of my condition than for any other reason. There was perhaps 100 feet of it, and as I reached the top there was a sudden clearing above me and I saw the whole summit ridge and final peak of Everest unveiled. I noticed far away on a snow-slope leading up to the last step but one from the base of the final pyramid,\* a tiny object moving and approaching the rock step. A second object followed, and then the first



MOUNT EVEREST FROM THE BASE CAMP

The drawing is made from a telephotograph taken at the Base Camp (16,500 feet) about 11 miles from the summit. The north-east shoulder (27,300) above A is half a mile nearer the Base Camp than the summit (29,002): consequently it appears relatively too high in the photograph, and the slope of the ridge too gentle.

A marks the position of Camp VI. (26,700 feet) and G the point reached by Mallory, Norton, and Somervell in 1922, which was probably misidentified and placed too high in the theodolite measures of 1922, made in very difficult circumstances; F just to the left of the dark patch is the point reached by Finch and Geoffrey Bruce in 1922. B is the point reached by Norton and Somervell in 1924, and the former went on to C. Mallory and Irvine were last seen at D, the "second step," the "first step" being at E. The identifications of these points have been made on the photograph by Colonel Norton.

climbed to the top of the step. As I stood intently watching this dramatic appearance, the scene became enveloped in cloud, and I could not

\* Not the position indicated in illustration *Geogr. Journ.*, vol. 64, No. 2, opposite p. 160, but the rock step to the left of this beyond the snow patch.

actually be certain that I saw the second figure join the first. I was surprised above all to see them so late as this, namely 12.50, at a point that according to Mallory's schedule should have been reached by 10 a.m. at latest. I could see that they were moving expeditiously as if endeavouring to make up for lost time. True, they were moving one at a time over what was apparently but moderately difficult ground, but one cannot definitely conclude from this that they were roped—an important consideration in any estimate of what befell them. I had seen that there was a considerable quantity of new snow covering some of the upper rocks near the summit ridge, and this may well have caused delay in the ascent. Burdened as they undoubtedly were with the oxygen apparatus, these snow-covered *débris*-sprinkled slabs may have given much trouble. The oxygen apparatus itself may have needed repair or re-adjustment either before or after they left Camp VI., and so have delayed them. Or both these factors may have been operative.

I continued my way up to Camp VI., and on arrival there about two o'clock a rather severer blizzard set in and the wind increased. After a short rest I realized it was just possible that, baulked by earlier bad weather higher up, Mallory and Irvine might be returning, and the concealed position of Camp VI. would be almost impossible to discover in the blizzard. I remembered also that Mallory had told me in his note that he had left his compass at Camp V., and asked me to retrieve it. So I went out in the direction of the summit, and having scrambled up about 200 feet and yodelled and whistled meanwhile in case they happened to be within hearing, I then took shelter for a while behind a rock from the driving sleet. After about an hour's wait, realizing that the chances were altogether against their being within call, I found my way back to the tent. As I reached it the storm, which had lasted not more than two hours, blew over, and the whole north face of the mountain became bathed in sunshine. The upper crags were visible, but I could see no signs of the party. The little tent at Camp VI. was only just large enough for two, and if I remained and they returned, one of us would have had to sleep outside in the open—an altogether hazardous expedient. But apart from this, Mallory had particularly requested me in his last note to return to the North Col, as he specially wished to reach there himself after their climb. Leaving Camp VI. therefore about 4.30 and going down the north ridge in quick time, I took to the snow near Camp V. and glissaded down to the North Col, reaching the camp at 6.45. That night Hazard's brew of soup made from a mixture of at least six varieties went down really well. I was surprised, though, to find that I was not suffering from thirst—that bugbear of Everest—to anything like the extent I had expected.

We watched till late that night for some signs of Mallory and Irvine's return, or even an indication by flare of distress. Next morning we scrutinized through field glasses the tiny tents of Camps V. and VI.

far up above us in case they had returned late and had not yet started down. But no movement at all could be seen. At noon I decided to go up to Camp V., and on to VI. next day, and I arranged a code of signals with Hazard, who remained at the North Col. Two porters came with me and stayed the night at Camp V., but in the morning I had to send them back to the North Col on account of indisposition. It was a bitterly cold night and we slept little if at all. Using oxygen, I started off from Camp V., and when within an hour or so of VI. I came to the conclusion that I was deriving but little benefit from the oxygen, which I had been taking only in moderate quantities from the single cylinder that I carried. I switched it off and experienced none of the feelings of collapse and panting that one had been led to believe ought to result. On reaching the tent at VI. I found everything as I had left it: the tent had obviously not been touched since I was there two days previously. I dumped the oxygen apparatus and went in search along the probable route that Mallory and Irvine had taken. There was a bitterly cold west wind, and now and then I had to take shelter behind rocks to restore warmth. After a couple of hours' search I realized that the chances of finding the missing men were indeed small on such a vast expanse of crags and broken slabs, and that for any more extensive search towards the final pyramid a further party would have to be organized. I returned only too reluctantly to the tent, and then with considerable exertion dragged the two sleeping-bags up a precipitous snow patch plastered on the little crag above the tent. With these sleeping-bags placed against the snow I had arranged with Hazard to signal down to the North Col Camp the results of my search. It needed all my efforts to cut steps out over the snow-slope and then fix the sleeping-bags in position, so boisterous was the wind. But fortunately the signal was seen 4000 feet below, though the answering signal I could not make out. Closing up the tent and leaving its contents as my friends had left them, I glanced up at the mighty summit above me. It seemed to look down with cold indifference on me, and howl derision in wind gusts at my petition to yield up its secret, this mystery of my friends. If it were indeed the sacred ground of Chomo-lungma—Goddess Mother of the Mountains—had we violated it? was I now violating it? And yet as I gazed again there seemed to be something alluring in that towering presence: I was almost fascinated. I realized that no mere mountaineer alone could but be fascinated; that he who approaches close must ever be led on, and oblivious of all obstacles seek to reach that most sacred and highest place of all. It seemed that my friends must have been thus enchanted also: for why else should they tarry? In an effort to suppress my feelings, I turned my gaze downwards to the North Col far below, and I remembered that other of my companions would be anxiously awaiting my return, eager to hear what tidings I carried. Alone and in meditation I slowly commenced my long descent. But it

was no place for silent contemplation, for buffeted by storm-blasts that seemed to pierce one through, it needed all one's attention and calculation to negotiate safely the exposed slabs of the ridge and prevent a slip on their *débris*-sprinkled surfaces. I quickened my pace lower down, but at times found it necessary to seek protection from the biting gale behind rocks and assure myself that no symptoms of frostbite were imminent. Hazard had seen me coming, and sent his one remaining Sherpa to meet and welcome me at the foot of the ridge. Arrived at the North Col Camp I was pleased to find a note from Norton and to discover that I had anticipated his wishes that I should return to Camp IV. and not prolong my search on the mountain, seeing that the monsoon seemed likely to break at any moment. Next day Hazard, the porter, and myself, leaving the tents standing, evacuated the North Col Camp and went down in good weather to Camp III., and later in the day with Hingston and Shebbeare to II., reaching the Base Camp on the 12th.

I have already mentioned the possible reasons why Mallory and Irvine were so late in reaching the point at which they were last seen, at an altitude which Hazard later determined to be about 28,230 feet, and I must now very briefly speculate on the probable causes of their failure to return. They had about 800 feet to surmount to reach the top, and if no particularly difficult obstacle presented itself on the final pyramid they should have got there about 3 to 3.30. This would be three or four hours late on Mallory's schedule, and hence they would find it almost impossible to reach Camp VI. before nightfall, allowing five or six hours for the return. But at the same time it must be remembered there was a moon, though it rose rather late, and that evening it was fine and the mountain clear of mist as far as could be seen. In spite of this they may have missed the way and failed to find Camp VI., and in their overwrought condition sought shelter till daylight—a danger that Mallory, experienced mountaineer that he was, would be only too well aware of, but find himself powerless to resist: sleep at that altitude and in that degree of cold would almost certainly prove fatal.

The other possibility is that they met their death by falling. This implies that they were roped together, which need not be inferred from their observed movements when last seen. It is difficult for one who knew the skill and experience of George Mallory on all kinds and conditions of mountain ground, to believe that he fell. Of Sandy Irvine it can be said that, though altogether less experienced than Mallory, he had shown himself to be a natural adept and able to move safely and easily on rock and ice. Such had been my experience of him in Spitsbergen, Norway, and on our home mountains. They were hampered of course by the oxygen apparatus—a very serious load for climbing with—as Mallory had mentioned in his last note to me. But could such a pair fall, and where technically the climbing appeared so easy? Experts have done so, under stress of circumstances or exhaustion.

It has been suggested that the oxygen apparatus failed and thereby rendered them powerless to return. I cannot believe this, for from my own personal experience, to be deprived of oxygen—at any rate when one has not been using it freely—does not prevent one from continuing, and, least of all, getting down from the mountain. Mallory in his last note to me said they were using little oxygen, and that they hoped to take only two cylinders each from Camp VI.

Hence I incline to the view first expressed, that they met their death by being benighted. I know that Mallory had stated he would take no risks in any attempt on the final peak ; but in action the desire to overcome, the craving for victory, may have been too strong for him. The knowledge of his own proved powers of endurance, and those of his companion, may have urged him to make a bold bid for the summit. Who of us that has wrestled with some Alpine giant in the teeth of a gale or in a race with the darkness, could hold back when such a victory, such a triumph of human endeavour, was within our grasp ?

The question remains : “ Has Mount Everest been climbed ? ” It must be left unanswered, for there is no evidence. But bearing in mind all the circumstances that I have set out above, and considering their position when last seen, I myself feel it is very probable that Mallory and Irvine succeeded. At that I must leave it.

A word in regard to the oxygen and the benefit derivable from it. I think that its importance has been exaggerated, and provided one has acclimatized at a sufficiently high altitude, say 22,000 or 23,000 feet, one can do practically as well without it. I am prepared to go further, and claim that oxygen used liberally may be regarded as a source of danger, preventing the user from proper acclimatization and greatly increasing the chances of his collapse if the apparatus break down. My own experience with the present apparatus is that its weight of about 30 lbs., combined with its bulk, quite obviates any advantage to be gained from it. It is interesting in this connection to compare Geoffrey Bruce's opinion in 1922 with his experience of it this year. I believe I am right in saying that he found he derived altogether less benefit from it this year than he expected he would. And this I feel sure was largely due to his higher degree of acclimatization. An interesting physiological point is that all members of the expedition who had been out before, acclimatized quicker than the new-comers. Finally, I consider that if oxygen be used by a high-climbing party in the future, if only in small quantities or as an emergency measure, it must be carried in an altogether lighter apparatus. Whether it be available in the gaseous state as at present, or can be carried in the much more convenient form of a liquid, is a matter for immediate research. But my firm belief is that Mount Everest can be climbed without oxygen.

## MEMORIAL SERVICE AT ST. PAUL'S CATHEDRAL

So soon as the tragic news that Mallory and Irvine had died on the mountain was published in a brief telegram on June 21, their colleges at Cambridge and Oxford arranged Memorial Services—at Magdalene on June 24 and at Merton on June 25; and on the following day a service was held at Birkenhead, from which town both came, and where their parents live. Several of Mallory's comrades on former expeditions members of the Mount Everest Committee, and the Joint Secretaries attended the services in the College Chapels, and Sir Francis Younghusband, the original chairman of the Committee, was present at the service in St. John's, Birkenhead. At this time nothing but the bare news of the accident was known.

When the tragic and glorious story of their climb to a record height within about 700 feet of the summit became known, it was evident that the celebrations of October 17, already fixed for the reception of the Expedition on their return, must assume a double character, of sorrow for the fallen, and high appreciation of the heroic exploits that marked those great days of June. It was therefore resolved by the Committee that the authorities of Saint Paul's should be asked to allow a solemn Memorial Service in the Cathedral, to precede the meeting in the evening at the Albert Hall.

This service was attended by great numbers of Fellows of the Society and Members of the Alpine Club, who filled the whole space under the Dome, and by a large congregation of the general public. His Majesty the King, the Prince of Wales, the Duke of York, and Prince Arthur of Connaught were represented. All the members of the 1924 expedition, and several of previous expeditions, were present, with the Mount Everest Committee, many members of the Council R.G.S. and of the Committee A.C., and delegates from many British Climbing Clubs. The lesson was read by the Dean; the full choir of the Cathedral sang the service; and the Bishop of Chester gave a most eloquent and moving address which, by his kind permission, we print in full. The Mount Everest Committee have expressed their thanks to the Dean and Canons of the Cathedral, and to the Bishop of Chester, for their most willing help in this solemn tribute to the memory of the two climbers who died on Mount Everest, perhaps in the very hour of their triumph.

ADDRESS BY THE RIGHT REVEREND HENRY LUKE  
PAGET, D.D., LORD BISHOP OF CHESTER

*Ps. lxxxiv. 5: "In whose heart are Thy ways."*

Many no doubt know what stands for these words in the Latin Version of the Psalms; a version used even more largely than ours,

and more familiar in its beauty to a vast number of our fellow-Christians—*Ascensiones in corde suo disposuit*: He has set ascents in his heart; or, as we should phrase it, He has set his heart on ascents.

It meant for the Psalmist no steep or dangerous climb. It meant at most a long and tedious journey, the sort of thing that is a venturesome undertaking to a quiet soul who lives at far distance from the Temple and the City of God. But it led him upwards, it led him to the place he wished to reach. Whether in memory or in anticipation, the road was dear to him. He had set his heart on it: he loved the upward path. It was fixed in his affection. *Ascensiones in corde suo disposuit*.

Far different from the attraction of that easy pilgrimage is the Challenge of the heights which has drawn into closest fellowship many of those who are here to-day. A great unanimity gives intense significance to your assembling in the House of God. For the lovers of the heights are a brotherhood more intimate, more closely united, more affectionately disposed to one another than almost any other group of men. It is as natural as it is beautiful that before your great meeting this evening you should meet here to remember, as in God's presence, those whose names are written in your Records in letters of gold.

It is not for us timid pedestrians to pretend that we understand your love of the heights. But if even from a distance and from some miserably lower level we have looked from afar upon the mountains, or known the silence of the snowfields, and the widening vision, and the exhilarating keenness of the air and the perfect azure of the skies (and you are good enough to believe that even the humblest climber may breathe the Spirit of the Mountains), can any one wonder at the fascination those mountains have for the real climber, that you have so set in your hearts the love of the heights? "*Ascensiones in corde suo disposuit*." Might it not almost be the motto of the Alpine Club?

It is simply because they both came from our county and diocese of Chester that I am asked to speak to-day. I am bidden, so far as such a thing is possible, to represent the homes from which they come, and those who love them best. They, I am sure, understand and value very highly what you wish to express by your presence. They are grateful to you for it. I got them to tell me something of the boyhood and early years of their glorious sons. In each instance there was the like story of quiet modest strength, of infinite perseverance, of a great and tender love of home, of a transparent purity of heart, of the deep and simple things that make fathers and mothers very thankful and very proud. I wish you could have been with us at Birkenhead, where, nearer home, an assembly not less significant, though it may be less august than this, tried to show its love for them and theirs.

And as we read what was so lovingly written, with all the eloquence of its reserve, it was not difficult to see in it the presage of what was to follow at Winchester and Shrewsbury, at Cambridge and Oxford, in the

Alps and in Spitsbergen, and at last on Mount Everest. It was the same Leigh-Mallory who veiled the grace and brilliancy of his leadership under the impenetrable cloak of his modesty ; who when something like disaster occurred insisted on claiming responsibility for it, and when an incredible presence of mind on his part saved the lives of others never let us know that it was he ; who reminded us that in a matter like this we all are comrades ! Yes, and the same Andrew Irvine who, with all his brilliant, his amazing, his premature attainments as a climber, would laugh as he set himself to the humblest task, or use the splendour of his giant strength to bear the burdens of other men.

“ Ascensiones in corde suo disposuit.” Was it only the love of the high mountains that was set in hearts like these ? No ; but rather that with the love of the mountains was the ascent of spiritual altitudes, splendid peaks of courage and unselfishness and cheerfulness, such as are reached not necessarily by the surefooted and the clear-headed, but always by the compassionate, the brotherly, and the pure in heart.

For indeed the record of Mount Everest may well help men, if not to feel the mystery of the mountain, yet surely to enter more deeply, more reverently, into the spirit of the mountaineer.

Thankful as we are for what the Expedition is able to tell us of the way and the attempts and the great achievement and for its marvellous pictures, it is perhaps as a human record and a human document that it speaks most clearly and speaks to us in St. Paul’s to-day. The indomitable cheerfulness, the amazing courage of it, the brotherly kindness and loyalty one to another, the passion for work, the refusal of praise. You have indeed set *Ascensiones* in our hearts : you have helped us more than you think to seek those things which are above ; Whatsoever things are true and honourable, just and pure, lovely and of good report, if there be any manly virtue, if there be any praise, you have helped us to think on these things.

George Mallory, Andrew Irvine, lovely and pleasant in their lives, in death were not divided.

It seems as though when God means us to learn He is wont to clothe that by which He teaches us in some form of simple and solemn beauty, of which it is hard to mistake or resist the appeal. So it is here ! The cloud clears away for a moment and you are allowed to see the two men making steadily and strongly for the summit. That is the last you see of them, and the question as to their reaching the summit is still unanswered ; it will be solved some day. The merciless mountain gives no reply !

But that last ascent, with the beautiful mystery of its great enigma, stands for more than an heroic effort to climb a mountain, even though it be the highest in the world—*Sic itur ad astra*.

Think of it how you will : as the ascent by which the kingly spirit goes up to the House of the Lord ; as the ascent through death to endless



life ; as the ascent by which the men of clean hands and pure hearts ascend into the hill of the Lord and rise up in His Holy Place ; as the way He went who said, " I go to prepare a place for you, that where I am there ye may be also."

" Lofty designs must end in like effects,  
Loftily lying,  
Leave them—still loftier than the world suspects,  
Living and dying."

For they indeed go from strength to strength, who have set their hearts on the heights.

---

### THE MOUNT EVEREST PHOTOGRAPHS

SINCE the main expedition followed exactly the same route as in 1922, the pictures sent home by Captain Noel and his collaborators in the photographic work of 1924 show for the most part scenes and incidents already familiar to us from the work of previous expeditions. The long route over the Jelep La into the Chumbi Valley and thence to the Rongbuk over the high Tibetan plateau by Kampa and Tinki and Shekar must be by this time the best photographed route in the world, and in the great collection of pictures stored at the Society there is material for study of scenery, costumes, architecture, and Lama ceremonial which is in great part still unworked.

From the great number of photographs already received this year—and there are more to come—we have with the help of Colonel Norton chosen a set which illustrate more particularly the detail of the mountain and its approaches. The highest pictures were taken by Mr. Somervell on his climb with Colonel Norton to over 28,000 feet without oxygen on June 3 and 4. Most of the others are believed to be by Mr. Bentley Beetham, but until Captain Noel's return there was some uncertainty about this, and we have been obliged to publish them without any attribution when they were not evidently by Mr. Somervell. Mr. Odell was, by an accident, without the use of his camera during his remarkable series of high climbs ; and we shall never know what pictures may have been secured by Messrs. Mallory and Irvine.

Increased knowledge of the mountain has never shown more than one possible line of ascent : that found by Mallory, Bullock, and Wheeler in 1921. After the attempts of 1922 there was some talk of a possible alternative by getting at the North Col from the west ; but no one has suggested a radically different way, and as the photographs become more successful the northern cliffs and north-west ridge (No. 1) look ever more formidable. The glacier below these cliffs is only about 19,000 feet above sea, the height of Camp II., and there does not seem to be much chance of establishing a series of higher camps on this side.

The fantastic ice-scenery of the East Rongbuk Glacier has lost nothing of the picturesque in the interval between the second and third expeditions. The ice-wall of the tributary glacier that comes in above Camp II. is there much the same ; but we do not recall anything in the 1922 pictures to equal the lake and ice pinnacles of Plate 2. In the evacuation of Camp III. at the end of the 1922 season Captain Morris described how with the onset of the monsoon the pinnacles were crashing and tumbling in all directions, so that in a few days the landscape was unrecognizable. It remains, we think, to be explained how pinnacles of this height, seemingly the remains of a thick glacier in rapid dissolution by evaporation or melting, are re-created from year to year.

A very remarkable feature, special to the East Rongbuk Glacier, is the "trough." In 1922 a route was made across it. This year the route followed it for a long way, and we may hope to have a detailed study of it. From first descriptions it seems to be connected with a medial moraine, which in its lower stretch appears upon the floor (No. 3), and at last rises up as an embankment above the general level of the glacier. The curious problem is, if it is a central moraine that is the prime cause of the trough, why is nothing of it visible where the trough starts? It is described as dipping down gradually and smoothly from the nearly level surface of the glacier, with a smooth floor and steep walls that gradually get higher, until as in No. 4 it makes a smooth broad road of ice and snow among the pinnacles.

The lamentable experience of 1922 made it essential this year to choose a route to the North Col that should be free from risk of avalanche : and we are fortunate in being able to illustrate very clearly how this was done. Those who have read the dispatches will remember the chimney, and the rope ladder made for it by the "well-known firm of Odell and Irvine." No. 5 shows the bottom of the chimney and the lower end of the ladder, leading up out of the icy chasm that appears to the ignorant eye so wanton an exaggeration of the difficulties. But the reasons that compelled this difficult route are evident when we examine the following three pairs of pictures, wherein the lower of each pair has been marked by Colonel Norton to show the exact track that was made.

Photographs Nos. 6 and 7 show the ice-cliffs of the North Col, and the head of the East Rongbuk glacier, much more rugged than they have appeared before. The photographer has chosen the light to bring out the details of the crevasses in strong relief : so that it is not right to compare with No. 13 of October 1922 and No. 12 of December 1922, and to conclude that the ice-walls were more formidable this year than in 1922 ; they were much the same. But there is much evidence that the glacier had changed greatly. Col. Norton relates that he reached Camp III. this year in mist and snow. When it cleared away the scene seemed unfamiliar : for the upper reaches of the glacier were strangely

terraced, and standing up above the lateral moraine, looking different from the glacier of 1922.

Plate 6 is taken from somewhere just above Camp III. The route to the North Col lies along the lateral moraine, and to avoid the treacherous slopes turns away to the right behind the rock slope. It reappears, as marked in Plate 7, just at the critical point better studied in the succeeding pictures.

The leading principle in making the route seems to have been that safety from avalanches is secured on the lower edge of a crevasse. The long curved crevasse which in 1924 cut right across the principal ice-slope was well placed, but had a nasty break in its lower edge. The route (Nos. 8 and 9) gained the northern end of the crevasse and turned south along its eastern lower edge until it was forced to descend into the chasm (left-hand edge of Nos. 10 and 11, which are taken looking along the face of the col towards the mountain, nearly at right angles to the axes of 8 and 9). There are no pictures of the descent, but the floor of the crevasse is well shown in No. 4.

The rope ladder is shown in No. 10 leading up through the chimney to the broken lower edge of the great crevasse, seen very much foreshortened. The track bends away to the right round the curve of the ice-slope, and re-appears high up and far away in the top right-hand corner of No. 11, corresponding to the extreme top of the track marked on No. 9, which gives a clear view of the long section hidden in No. 11 by the curvature of the slope.

This was the normal route. In the quite desperate adventure of the rescue of the porters on May 24 Mr. Somervell followed the rather lower (chain-dotted) track in the upper part of No. 11; and after study of this photograph we may begin to appreciate what was involved in that rescue, or what it meant to bring Colonel Norton down snow-blind through the chimney on June 6.

Camp IV. was pitched nearly in the same place as in 1922, and Plate 6 of December 1922 is so like the photograph of the camp taken this year that it will serve very well to illustrate it. But there was one difference. It was no longer necessary to start towards Changtse in order to gain the north-east ridge of Mount Everest. The route shown in No. 7 led straight towards the mountain from Camp IV., but disappears from the sight of Camp III. soon after it has crossed the crevasse where presumably was the snow-bridge mentioned as insecure but sufficient.

No. 12 of the present series should be compared with No. 7 of December 1922 taken by Captain Finch. It is evidently taken from a point on the northern arête at about 25,000 feet: rather higher than the point from which Finch took his picture, as may be seen by comparison of the Lingtren peaks in front of Gyachung Kang, the high peak in the middle of the picture. The large mass to the left is Cho Uyo, and the twin peaks partly enveloped in cloud are probably Cho Rapsang, west

of the Khumbu Pass, lettered BG and BF on No. 17 of October 1921. Mr. Hazard has now definitely confirmed Major Wheeler's position for the head of the West Rongbuk Glacier: it lies immediately below the cloud in No. 12 at the southern end of the slopes of Gyachung Kang. Here is an almost flat glacier pass, and the watershed runs from Ling-trennup (in the middle distance on the left) across to Gyachung Kang and on to Cho Uyo. The photographs which made the West Rongbuk Glacier appear to come from much further west are deceptive.

It is interesting to compare No. 12, taken at about 28,000 feet, with No. 3 of December 1922, taken at about 26,800 feet. In both the camera is pointed upwards, so that the slope is foreshortened and made to appear much less steep than it is. The line of the arête between the smoother snow and the rocky face shows that No. 12 is taken further to the left than No. 3: the arrangement of the horizontal bands shows that it is taken much higher up. In No. 3 of December 1922 there are heavy rocks in the foreground. Just above the left-hand corner of the top rock is seen the "second step" reached by Mallory and Irvine. Below and to the right of this are dark patches, which can be easily identified in our present No. 12, wherein Norton is seen in the middle distance approaching a cleft between two black pieces of cliff. In the older picture Norton's position would be about 0·4 inch right and 0·3 inch down from the edge of the second step. He went on and got across the great couloir which comes down from the foot of the final pyramid, but gained little more in height, and estimated that he was nearer 300 feet than 100 below the second step: he disclaims the 28,200 feet attributed to him in the title of *Pate 12*; it was nearer 28,100.

All the photographs of the high climbing in both years show this very unattractive ground on the northern face of the mountain, rough slabby stuff, rarely difficult in the technical sense, but dangerous from thin snow and loose scree on slabs awkwardly tilted. Only Mallory and Irvine have ever reached the crest of the ridge between the summit and the north-east shoulder. They alone have looked down the cliffs which are shown in the telephotograph taken by Mallory himself in 1921 (No. 8 December 1921). It will be necessary to have this negative examined under magnification, to see if it is possible to identify the detail on the ridge. Somewhere near, and probably to the left of the black marking on the skyline, is the second step; and if they fell it may be on this side that they lie.

The most interesting of all, in many ways, is No. 14, taken by Somervell from 28,000 feet looking northward clear over Changtse to the main Rongbuk Valley. The Base Camp is somewhere about the patches of snow near the upper edge and the left-hand corner. Camp I. is below the sharp snow peak, Camp II. beyond the tributary glacier's junction with the East Rongbuk. Camp III. is somewhere in the right-hand bottom corner, and Camp IV. on a ledge just to the right of and below

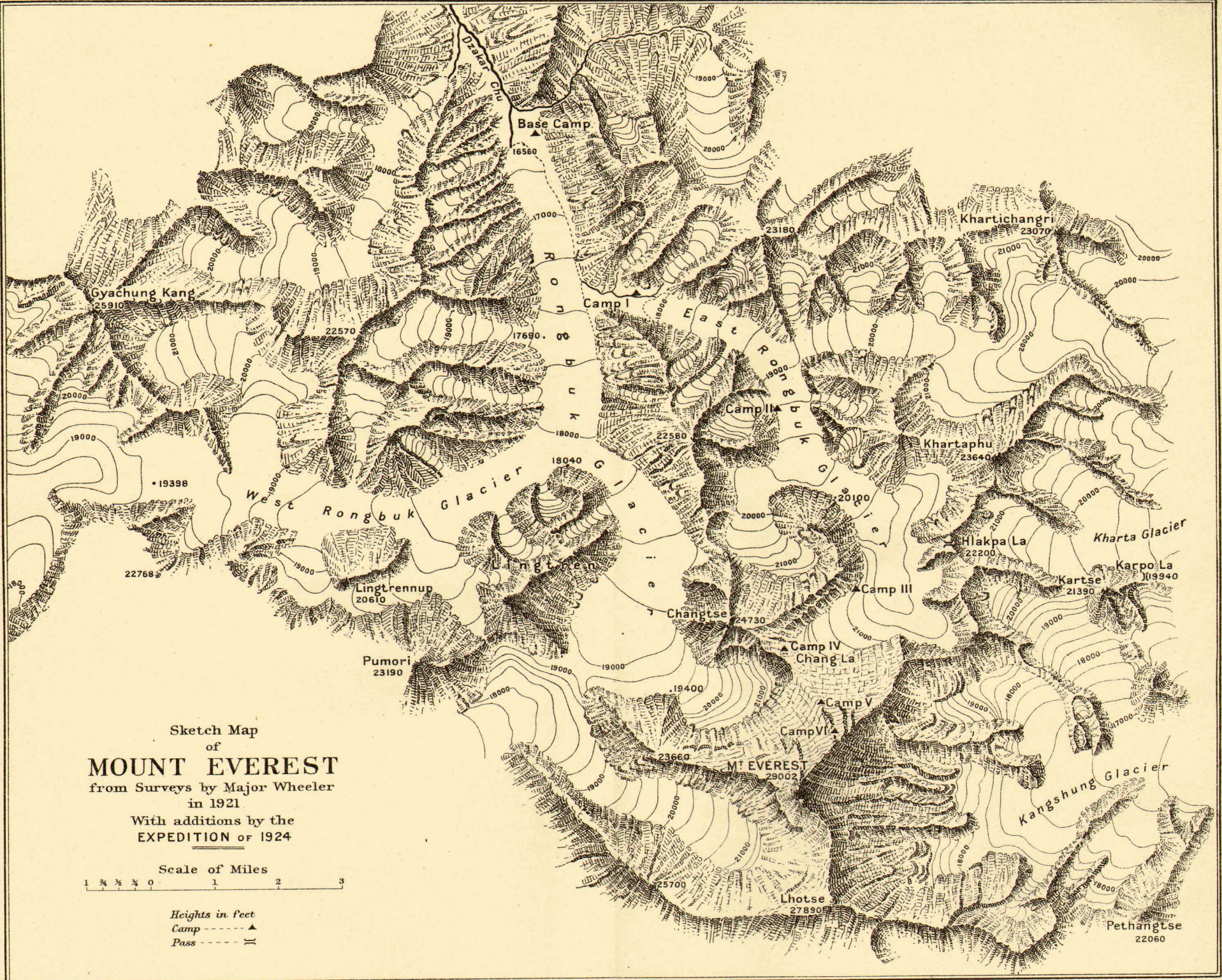
the narrow North Col which stretches across the foreground with steep rock on the left and equally steep ice-cliffs on the right. It is instructive to compare this picture with No. 6. It has seemed a puzzle how the North-Col ice was fed, for the slopes above it are mostly bare rock, and the photographs gave the impression of a great thickness of ice on a rather flat top. It now looks as if the substructure of the col is a knife-edge reaching really to the level of the ice on its western edge ; and that all the mass of ice on its eastern slope may be fed from the snow accumulating in the lee of the col during the prevailing westerly winds. The black summit on the left overlooking the Rongbuk Valley is what looks like the summit of Changtse (the North Peak) in front of the cloud in No. 1. It is not the summit, which lies away to the left in No. 1, and in No. 14 is somewhere, not easily identifiable, on the ridge that runs almost vertically below the snow peak, probably at the junction with the long straight crest that goes off to the right in front of the East Rongbuk Glacier.

Plate 15 is taken from the same point as No. 14, but looking westward and rather more towards the south than No. 12, so that Gyachung Kang comes on the right-hand edge, and the view just includes in the left-hand top corner a high dark mountain that must be Gaurisankar, though as that mountain is some 3000 feet lower than Cho Uyo and twice as far away, it is clear that the camera must be tilted, and the picture too high on the left. The fine peak a little to the left of the centre is Pumori ; the other peaks await identification from Wheeler's map as completed by the last expedition : not quite an easy matter, as the Lingtren peaks are from this aspect confusingly unlike the view of them from the Rongbuk Glacier.

Finally, No. 16 shows a pious deed well done. Dr. Kellas in 1921, seven porters in 1922, Mallory, Irvine, and a Gurkha N.C.O., have fallen in the reconnaissance and the two seasons of assault. The monument to their memory erected before the expedition left the Base Camp in 1924 will be revisited in 1926 : and we like to hope that the climbers safe returned from the summit in that year may be able to add a sentence to the inscription, that Mallory and Irvine died after reaching the summit in 1924. That would seem to be the most fitting end to the great adventure whose third stage is recorded and illustrated in this number of the *Journal*.

The sketch-map which follows page 504 has been made from the surveys of Major Wheeler in 1921, with various additions from the work of the 1924 expedition, and occasional correction from photographs. The principal geographical result of this year is to confirm the result of Major Wheeler in 1921, that the West Rongbuk glacier comes from a very flat glacier pass south of Gyachung Kang, and that the glacier beyond descends steeply into Nepal.



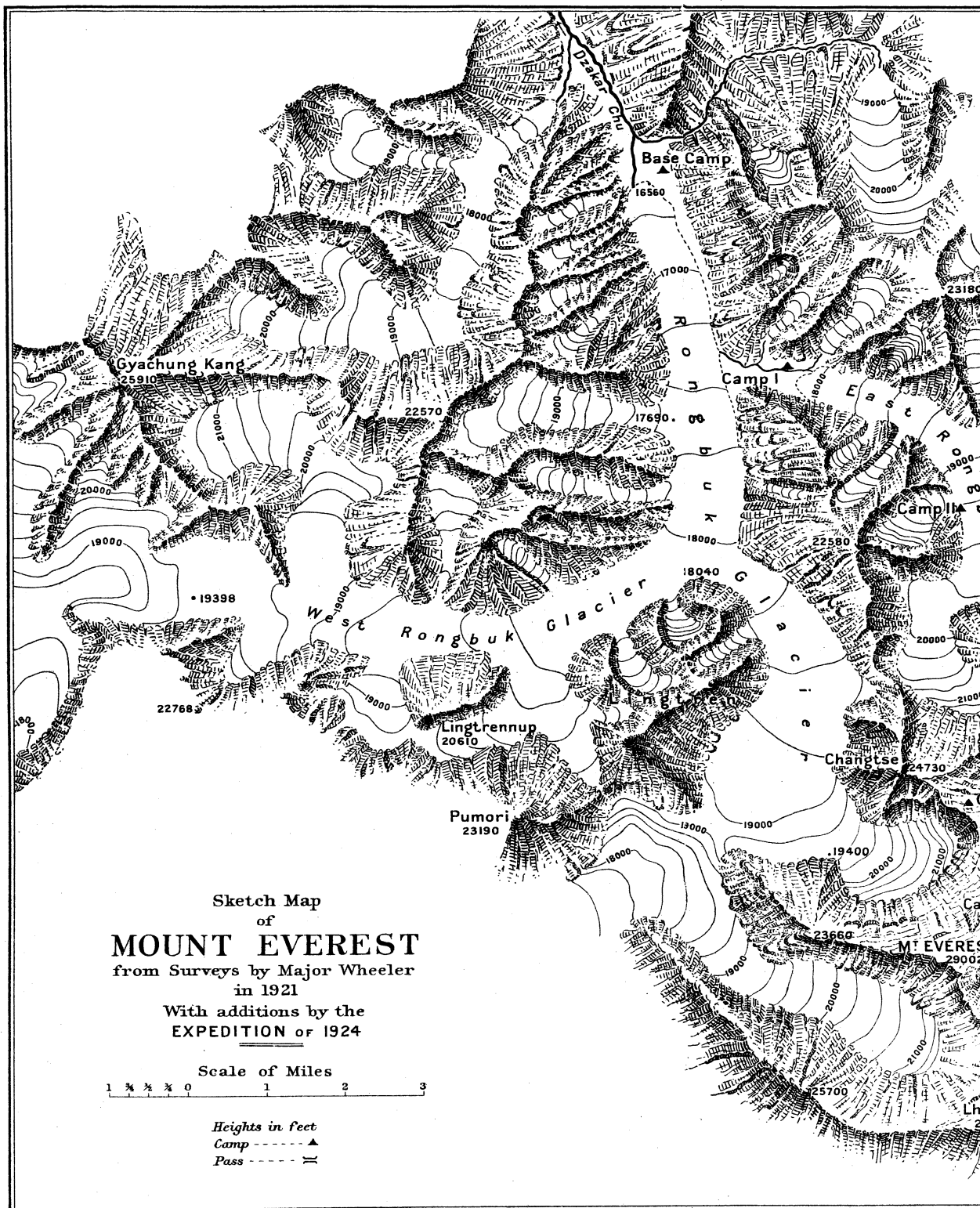


Sketch Map  
of  
**MOUNT EVEREST**  
from Surveys by Major Wheeler  
in 1921  
With additions by the  
**EXPEDITION OF 1924**

Scale of Miles  
1 1/4 1/2 3/4 0 1 2 3

Heights in feet  
Camp ----- ▲  
Pass ----- ∩

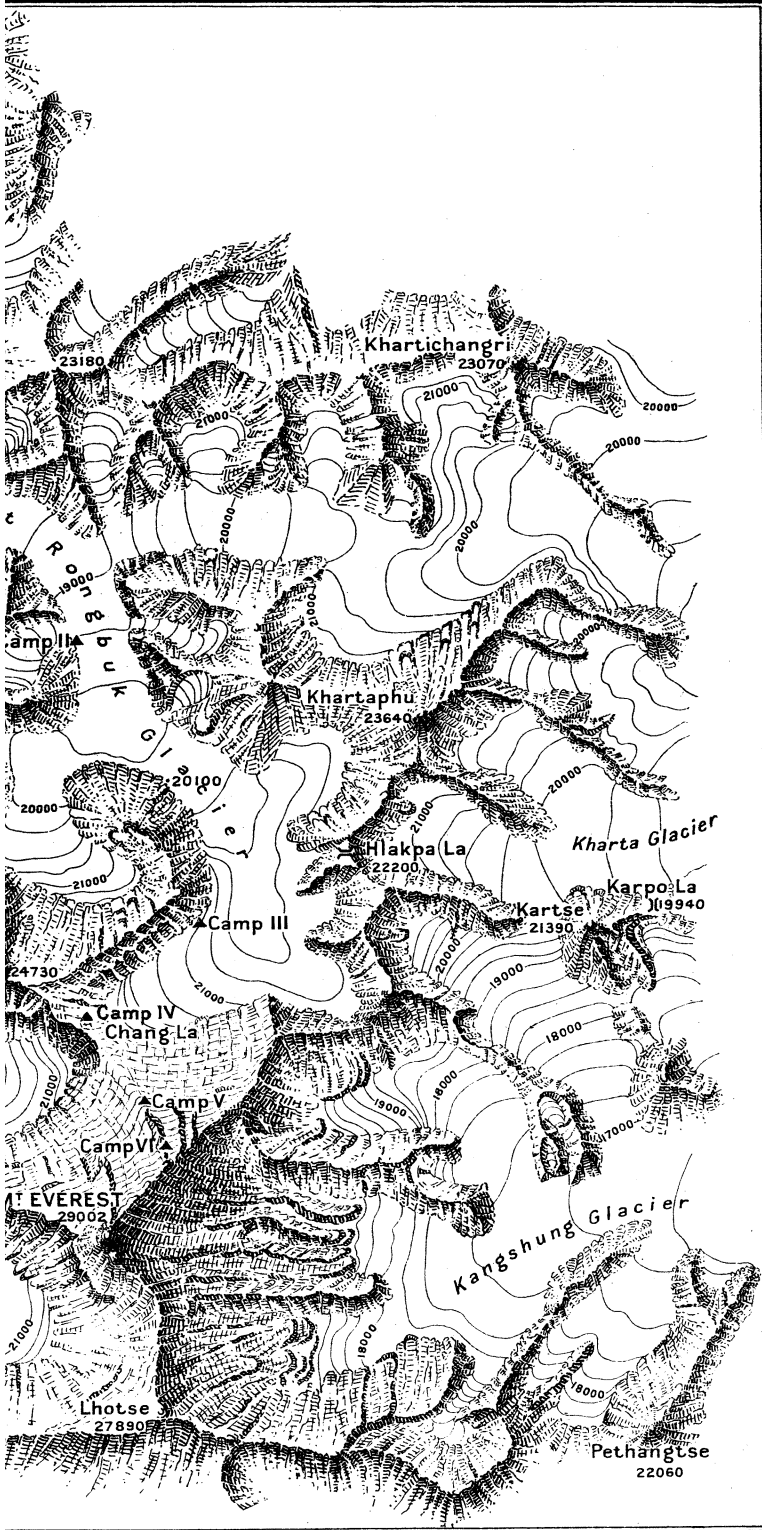




Sketch Map  
of  
**MOUNT EVEREST**  
from Surveys by Major Wheeler  
in 1921  
With additions by the  
EXPEDITION of 1924

Scale of Miles  
1 1/2 2 3

Heights in feet  
Camp -----▲  
Pass -----≡



EVEREST



aims at reproducing the atmosphere of the chief cities of Spain, particularly Seville, Cordoba, Granada, and Madrid. It may be thought that Mr. Bell is more successful in his treatment of village life and peasant habits of thought than in his portrayal of the more strenuous existence of the larger cities. While the casual traveller will find the book interesting, it will appeal with greater force to one who knows the language, the history, and the literature of Spain, for an extensive if not exhaustive study of these Mr. Bell rightly considers a necessary preliminary to a full appreciation of the country and its people. Naturally, few controversial subjects are dealt with, and although the book abounds in historical allusions the political situation is left untouched. It may be doubted however whether, as Mr. Bell believes, bull-fighting is destined to be replaced by the pelota. It would appear to be more probable that the rising generation of Spaniards will satisfy their sporting instincts on the tennis-court and the football-ground, for both in Madrid and in Seville matches already draw larger crowds than the bull-ring can accommodate.

G. B. B.

#### ASIA

**Shelton of Tibet.**— F. B. Shelton: New York: George H. Doran Company. 1923.  $7\frac{1}{2} \times 5$ , pp. xiv. + 320. *Illustrations.* \$2 net.

In this book the writer gives some account of the work of her husband, an American Baptist Medical Missionary, mainly in Southern Tibet, where he lost his life by mischance on one of his journeys in the interior. A considerable part is composed of letters from relatives and friends, and while the volume as a whole scarcely lends itself to anything in the nature of a formal review, it contains several items of unfamiliar interest.

A singularly detailed familiarity with human anatomy appears to prevail among the common folk. It is declared that "perhaps there is no people on the globe who know so much about the construction of the body as the Tibetans, and yet who have so little medical knowledge or so few remedies. The facts of anatomy are learned from one of their modes of burial, the body being dissected and fed to the birds."

Illness of all kinds is believed to be the work of evil spirits, hence the importance assumed by the "devil dances" and similar forms of exorcism, to which attention was drawn in the remarkable moving pictures and their accompanying music by Dr. Howard Somervell in the lectures descriptive of the second Everest expedition.

A further terror to life for the Tibetan, and his helplessness in the face of the unseen, are disclosed in the firm and widespread belief in the ability of his enemy to "*pray him to death*"!

In the prevalence of superstitions so universal and so malignant, ample justification is afforded for work such as that undertaken by Mr. Shelton—work which aims at enlightening the minds of this people with a teaching that brings a new outlook on life and some of its problems, and furnishes them with the means of remedying many of the physical ills to which human flesh is heir.

W. W.

**South Indian Hours.**— Oswald J. Couldrey, I.E.S. (retired). London: Hurst & Blackett, Ltd. 1924.  $8\frac{1}{2} \times 5\frac{1}{2}$ , pp. 288. *Illustrated by the Author.* 18s. net.

The part of India between the Eastern Ghats and the mouths of the sacred Godavari is out of the beaten track of travellers, and was accessible with difficulty before the opening of the East Coast Railway in 1900. At Rajahmundry, a country town just above the head of the delta, Mr. Couldrey spent