Mount Everest: The Reconnaissance.

By GEORGE LEIGH MALLORY.

(Read with the preceding paper at the Joint Meeting of the R.G.S. and A.C. on 20 December 1921.)

THE reconnaissance of Mount Everest is a long story, and I do not propose to tell it now. It was necessary for our purpose, firstly, to seek in an unexplored country the most convenient approaches to various parts; secondly, by regarding the mountain from many different points of view to come to a correct understanding of its shape, and distinguish the vulnerable parts of its armour; finally, to pit our skill against the mountain wherever an opportunity of ascent presented itself. In the first two objects our task was largely accomplished between June 23, when we set out from Tingri, and August 18, when we first reached the Lhakpa La and looked over into the snow basin, which is the head of the East Rongbuk glacier. The final phase of the reconnaissance occupied the first three weeks of September, and I call it the "Assault," because we intended to climb as far up the mountain as we were able.

We had discovered before the final phase that the summit of Mount Everest was formed by the convergence of three arêtes. The faces which lay between them were clearly seen to be impracticable. The south arête is blocked by the south peak, a formidable crest about 28,000 feet high. The other two arêtes, west-north-west and north-east, are so steep in their lower parts that access is impossible. The only possible line of ascent is to reach the upper part of the north-east arête from the north. Between Everest and the north peak is a high snow col (about 23,000 feet), and it looks possible to get up from here.

The line of approach chosen to this col had been determined by a variety of circumstances, more particularly by the abundance of fuel in the Kharta Valley which had suggested an advance from the eastern side; but this approach would involve the crossing of another snow col, the Lhakpa La (22,500 feet), which we had already reached. Once the snow was firm the way there would present no difficulties.

It had become evident during our reconnaissance in July and August that any serious climbing on the great mountain itself must wait on the weather—if only for the sufficient reason that the labour of carrying loads over unmelted snow would be an unendurable strain upon our coolies. Our plans were based upon the assumption that what the wise men prophesied about the weather would come true. We were promised a fine

September. Some time about the beginning of the month the monsoon would end, and then we should have clear days of glorious sunshine and warmth to melt the snow, and cold nights to freeze it; at worst the calm spell would only be broken by a short anger. And so it was arranged in hope, if not in confidence, to move up on the first signs of improvement. Already, before we came down to Kharta, our advanced base camp had been moved up. It was now situated at about 17,300 feet on a convenient grassy plateau and only a reasonable stage below our 20,000 feet camp, where some light tents and stores had also been left. At these two camps we had, in fact, left everything which we should not absolutely require at Kharta, so that few mountaineering stores would have to be carried up from the base when we came up again. Our first task would be to supply the advanced base with food and fuel, and a start had already been made by collecting here a pile of wood, nominally thirty loads. Transport in any case was not likely to be a difficulty in the early stages. Local coolies could easily be hired, and Colonel Howard-Bury was to follow us up after a short interval with all available strength to help in every possible way.

The first object which our plans must include was, of course, to reach the north col; by finding the way to this point we should establish a line of attack and complete a stage of our reconnaissance. Secondly, we must aim at reaching the north-east arête. In so far as it was an object of reconnaissance to determine whether it was possible to climb Mount Everest, our task could never be complete until we had actually climbed it; but short of that it was important to have a view of the final stage, and could we reach the great shoulder of the arête we should at least be in a better position to estimate what lay between there and the summit. Finally, we saw no reason to exclude the supreme object itself. It would involve no sacrifice of meaner ends; the best would not interfere with the good. For if it should turn out that the additional supplies required for a larger campaign were more than our coolies could carry, we could simply drop them and aim less high.

In organizing the assault we had to consider how our camp could be established firstly at Lhakpa La, or, perhaps, better beyond it at a lower elevation, secondly at the north col, and finally as high as possible, somewhere under the shoulder, one thought, at about 26,500 feet. From the camp on the north col we should have to carry up ten loads, each of 15 lbs., which would provide tents enough and sleeping-sacks and food for a maximum of four sahibs and four coolies. Sixteen coolies were allowed for this task; twelve would, therefore, have to return on the day of their ascent and sleep at the north col; on the assumption that they would require an escort of sahibs, who must also sleep at this camp, four small tents must remain there, making six in all to be carried up to this point.

The lower end of the ladder must be so constructed as to support the weight at the top. It was comparatively a simple matter to provide the earlier camps. The first above the advanced base could be supplied before we moved up to sleep there, the coolies returning on the same day whenever they carried up loads. And the same plan could be adopted for the second at Lhakpa La; only one journey there, I calculated, would be required before we started from the 20,000-feet camp, and we could then go straight ahead without delay. The crux would lie in the stage from Lhakpa La to the north col. At the most we should have twenty-three coolies, sixteen who had been all along with the climbing party, three whom Wheeler had partially trained, and four more Sherpas, the maximum number being determined by the supply of boots. But it would not be necessary to carry on all the loads from Lhakpa La; and return journeys could be made from the north col, both by those who were not to stay there and by the twelve already mentioned who might fetch supplies if necessary on the final day of the assault. This plan was never executed in its later stages, and we cannot know for certain whether it would have held good. But it may be conjectured in view of our experience that the weakest link would have broken; either an extra day would have been spent between Lhakpa La and the north col, or, if we reached the north col, according to our programme, with the minimum of supplies, the coolies would not have been brought to this point a second time, and the climbing party would have been cut off from its reserves. And, granted the most favourable conditions for the attempt, in asking the coolies to carry loads of 30 lbs. on two consecutive days at these high altitudes we were probably expecting too much of them. It must be concluded, if this opinion is correct, that we had not sufficient coolies for what we intended.

On the last day of August, Bullock and myself were established once again at our advanced base. The weather had not yet cleared, though it was showing some signs of change. But it had been necessary to move up for the coolies' sake. At Kharta they had little to amuse them, and no work to employ their time; they were badly in need of a routine, which was easily enough provided. Besides, I wanted to be ready, and it seemed not too soon to begin carrying loads up to the next camp. There was no occasion for hurry in the event. We were obliged to wait nearly three weeks, until September 19, before moving forward. The delay served no useful purpose. The work of supplying our present needs and providing for the future was sufficiently spread over the long tale of days, but interspersed with more rest and leisure than any one required. It was a blessing to be comparatively a large party. Howard-Bury and Wollaston and also Raeburn had come up on the 6th, Morshead and Wheeler on the 11th, and for two nights Heron was of our company.

We kept ourselves fit. But it amused nobody to watch the procession of clouds which precipitated sleet by day and snow by night, and our appetite for adventure could not be stimulated by the days of waiting in so dreary a scene.

When at last the weather cleared, it was evident that the fate of our enterprise would be decided by the sun's power to melt the snow. Before we left the advanced base I had good reason to expect that we should meet adverse conditions, and was so resolved at the same time that nothing was to be gained by waiting. The coolies were lightly laden up to the first advanced camp, and sufficiently unfatigued to proceed next day. On the 20th, therefore, leaving Bullock to accompany Wheeler, Morshead and I set forth to get fourteen loads up to Lhakpa La. We had one spare coolie who carried no load, and Sanglu, who was now our acting sirdar, four of us in all to break the trail for the loaded men. Snowshoes were not carried, because there were not enough to go round. Though our prospects of reaching a high point on Everest were already sufficiently dim, I intended to carry out the original plan until obliged by circumstances to modify it; it might prove necessary to spend an extra day in reaching the north col, and in that case we could perhaps afford to stop short of Lhakpa La and establish our camp below its final slopes. But if the strain on this first day was likely to be severe, I argued that the coolies could rest to-morrow, and that the second journey in frozen tracks would be easy enough. That on the col we should pass the night a few hundred feet higher (22,500 feet) was a relatively unimportant consideration. The great matter was to put heart into the coolies; it would be infinitely more encouraging to reach the crest with a sense of complete achievement, to see the clear prospect ahead, and to proceed downwards on the other side. Our start at an early hour on the 20th was sufficiently propitious. The night was exceedingly cold, and we walked on hard crisp snow up to the icefall. But the conditions here were no better than expected; higher they were worse than I had imagined possible. No firm steps could be stamped by the leaders to save the coolies behind, and each in turn had to contend with the shifting substance of fine powder. Three fell out in a state of exhaustion, and made their own way down. Two of the loads were bravely carried on until they had to be abandoned about 800 feet below the pass. The party straggled badly. But time was on our side, and gradually the eleven remaining loads arrived at their destination. The coolies had behaved in the gamest fashion, and no small share in the result was contributed by Morshead, who alternately plodded in front and kept together a party behind. Whatever measure of success we afterwards attained was secured on this day.

Now that we had obtained a clearer view of the north col it was possible to make more exact calculations, and it was evident we must

modify our plans. We had seen a wall of formidable dimensions, perhaps 1000 feet high; the surface was unpleasantly broken by insuperable bergschrunds, and the general angle was undoubtedly steep. The slopes of Everest to the south were out of the question, and if it were possible to avoid a direct assault by the north side the way here would be long, difficult, and exceedingly laborious. The wall itself offered the best chance, and I was in good hopes we could get up. But it would not be work for untrained men, and to have on the rope a number of laden coolies, more or less mountain-sick, conducted by so small a nucleus as three sahibs, who would also presumably be feeling the effects of altitude, was a proposition not to be contemplated for a moment. We must have as strong a party as possible, in the first place simply to reach the col and afterwards to bring up a camp, if we were able, as a separate operation. With this idea I selected the party. Wollaston could not be one of us as his place of duty was not with the van. Only Wheeler besides had sufficient mountaineering experience, and it was decided that he alone should accompany Bullock and myself on our first attempt to reach the col.

I had hoped we should have a full complement of coolies on the 22nd, but when morning came it was found that three, including two of the best men, were too ill to start, consequently some of the loads were rather heavier than I intended. But all arrived safely at Lakpa La before midday. Visited by malicious gusts from the north-west the pass was cheerless and chilly. However, the rim afforded us some protection, and we decided to pitch our tents there rather than descend on the other side with the whole party, a move which I felt might jeopardize the return. I was not very happy about the prospects for the morrow. For my own part I had been excessively and unaccountably tired in coming up to the col; I observed no great sparkle of energy or enthusiasm among my companions. Sanglu was practically *hors de combat*; some of the coolies had, with difficulty, been brought up to the col and were more or less exhausted, and many complaints of headache, even from the best of them, were a bad sign.

There was no question of bustling off before dawn on the 23rd, but we rose early enough, as I supposed, to push on to the north col if we were sufficiently strong. Morshead and I, in a Mummery tent, had slept well. I congratulated myself on an act of mutilation in cutting two large slits in its roof. The rest had not fared so well, but seemed fit enough, and the wonderful prospect from our camp at sunrise was a cheering sight. With the coolies, however, the case was different. Those who had been unwell overnight had not recovered, and it was evident that only a comparatively small number would be able to come on. Eventually I gathered ten—two men, who both protested they were ill, casting lots for the last place; and of these ten it was evident that none were unaffected by the height,

and several were more seriously mountain-sick.* Under these circumstances it was necessary to consider which loads should be carried on. Howard-Bury, Wollaston, and Morshead suggested that they should go back at once so as not to burden the party with the extra weight of their belongings, and it seemed the wisest plan that they should return. Certain stores were left behind at Lhakpa La as reserve supplies for the climbing party. I decided at an early hour that our best chance was to take an easy day, and, after a late start and a very slow march, we pitched our tents on the open snow up towards the col.

It might have been supposed that in so deep a combe and sheltered on three sides by steep mountain slopes we should find a tranquil air and the soothing though chilly calm of undisturbed frost. Night came clearly indeed, with no gentle attentions. Fierce squalls of wind visited our tents and shook and worried them with the disagreeable threat of tearing them away from their moorings, and then scurried off, leaving us in wonder at the change and asking what next to expect. It was a cold wind at an altitude of over 22,000 feet, and however little one may have suffered the atmosphere discouraged sleep. Again, I believe I was more fortunate than my companions, but Bullock and Wheeler fared badly. Lack of sleep, since it makes one sleepy, always discourages an early start, and hot drinks take time to brew. In any case, it was wise not to start too soon so as to have the benefit of warm sun whenever our feet should be obliged to linger in cold snow or ice steps. It was an hour or so after sunrise when we started, and half an hour later we were breaking the crust on the first slopes under the wall. We had taken three coolies who were sufficiently fit and competent, and now proceeded to use them for the hardest work. Apart from one brief spell of cutting, when we passed the corner of a bergschrund, it was a matter of straightforward plugging, firstly slanting up to the right on partially frozen avalanche snow, and then left in one long upward traverse to the summit. Only one passage, shortly below the col, caused either anxiety or trouble. Here the snow was lying at a very steep angle and was deep enough to be disagreeable. About 500 steps of very hard work covered all the worst of the traverse, and we were on the col shortly before 11.30 a.m. By this time two coolies were distinctly tired, though by no means incapable of coming on; the third was comparatively fresh. Wheeler thought he might be good for another 500 feet, but had lost all feeling in his feet. Bullock was obviously tired, but by sheer will power would evidently come on—how far one could not say. For my part, I had had the wonderful good fortune of sleeping tolerably well at both high camps, and now

* I use this expression to denote, not a state of intermittent vomiting, but simply one in which physical exertion exhausts the body abnormally, and causes a remarkable disinclination to further exertion.

finding my best form; I supposed I might be capable of another 2000 feet, and there would be no time for more. But what lay ahead of us? My eyes had often strayed as we came up to the rounded edge above the col and the final rocks below the north-east arête. If ever one had doubted whether the arête were accessible, it was impossible to doubt any longer. On those easy rock and snow slopes was neither danger nor difficulty. But at the present time there was wind. Even where we stood under the lee of a little ice cliff, it came in fierce gusts at frequent intervals, blowing up the powdery snow in an evil manner sufficient to take one's breath away. On the col beyond it was blowing a gale. And higher was a more fearful sight. The powdery fresh snow on the great face of Everest was being swept along in unbroken spindrift, and the very ridge where our route lay was marked out to receive the full fury of this onslaught. We could see the blown snow deflected upwards for a moment where the wind met the ridge only to rush violently down in a veritable blizzard on the leeward side. To see, in fact, was enough; the wind had settled the question; it would have been folly to go on. Nevertheless, we struggled a few steps further to put the matter to the test. For a few moments we exposed ourselves on the col to feel the full blast, and then struggled back to shelter.

It remained to take the final decision on the morning of the 25th. We were evidently too weak a party to play a waiting game at this altitude. We must either take our camp to the col or go back. A serious objection to going forward lay in the shortage of coolies' rations. Had the men been fit, it would not have been too much for them to go back to Lhakpa La unladen and reach the north col the same day. I doubted whether any two could be found to do that now; and to subtract two was to leave only eight, of whom two were unfit to go on, so that six would remain to carry seven loads. However, the distance to the col was so short that I was confident such difficulties could be overcome one way or another. A more unpleasant consideration was the thought of requiring a party which already felt the height too much to sleep at least 1000 feet higher. We might well find it more than we could do to get back over Lhakpa La and be forced to make a hungry descent down the Rongbuk Valley. But there would be no disaster in that event. The crucial matter was the condition of the climbers. It seemed we had not sufficient strength to allow a margin for the unforeseen. And what more were we likely to accomplish from a camp on the north col? The second night had been no less windy than the first. Ever since the weather had cleared the wind had been strong from north-west, and every day we had seen the powdery cloud blown from the mountain crests. The only signs of a change now pointed to no improvement, but rather a fall of snow, by no means an improbable event according to local lore. The arguments, in fact, were all on one

side; it would be bad heroics to take wrong risks; and fairly facing the situation one could only admit the necessity of retreat.

It may be added that the real weakness of the party became only too apparent in the course of our return journey over Lhakpa La on this final day; and it must be safe to say that none of the three climbers has ever felt a spasm of regret about the decision to go back or a moment's doubt as to its rightness. It was imposed upon us by circumstances without a reasonable alternative.

No considerations can be more important for future guidance than those affecting the health of the party. But here knowledge will not best be sought from one man's report, even the doctor's. If every member of the expedition were to write a full and frank report of his own health from first to last, with particular reference to the effects of elevation, we might begin to know something about it. I know chiefly in a negative way, and in any case not minutely, how I felt in differing circumstances at various elevations; I know just a little how Bullock was affected, and still less about the coolies. It may possibly be worth adding a few inferences to what has previously been recorded by other parties in the Himalayas.

It is unfortunate for the present purpose that I enjoyed an almost uniform good health at all elevations from first to last. So far as mere living at high altitudes is concerned I observed almost no effects in my own case. My appetite was never-failing. I ate large quantities of solid food, mutton, potatoes, quaker oats, bread, and biscuits—whatever presented itself—and it was often decidedly unattractive; and after a day's climbing I had the same craving for sweet things which I have often noticed in the Alps, where, at a place like Zermatt, the consumption of a great number of sweet cakes seems only to stimulate my energy. And I almost invariably slept well at almost all our camps, more lightly perhaps at the higher ones, but with sufficiently refreshing unconsciousness. Comfortable ground, sufficient warmth, a pillow rightly adjusted, all the conditions of a contented body, mattered far more to me than the quality of the air I breathed. On one occasion, after sleeping less well than usual at 17,000 feet, I went up to 20,000 feet and slept in divine oblivion, waking only to see the dawn with fresh delight. Not every one was quite so fortunate as myself. Bullock's appetite, though it improved later to admiration, was notably deficient during the first three weeks for one who was working his body so hard; and he was short of sleep at our highest camps. But in general he seemed hardly to suffer from the fact of living for a few days together at elevations above 17,000 and 18,000 feet. Some other members of the expedition seemed not to be quite at their best at 20,000 feet, and at Lhakpa La were imperfectly refreshed by the night's rest. As to the coolies, I fear their discomforts were apt to increase at

the higher camps more than ours, and consequently they may have suffered some loss of sleep, but I have not the slightest evidence to show that after spending a night or several nights at a high camp, except at the last two, they were in any way less fit to go on next day as a consequence of the altitude.* It should, perhaps, be added that it seemed in some physical way a relief to come down after staying a long time about 17,000 feet or higher; but on the two occasions when we rested for some days at about 12,000 feet (Kharta), it seemed to me that we were less rather than more fit when we went up again.

Another aspect of this inquiry is the effects of altitude over a longer period. What were the general effects upon health after two or three months? When the party gathered at Kharta, towards the end of August, I observed that most of us seemed remarkably fit; but not so Bullock; he was too thin and appeared to require rest. I dare say he took it with advantage. About myself it is worth remarking that I had completely recovered, with the aid of a tonic, from a nasty visitation of fever and sore throat *without coming down to lower altitudes*. The last few days of our reconnaissance were a strenuous time, but for the expedition, which, far more than any other, demanded endurance, when we first reached Lhakpa La, I was perfectly fit. Nevertheless, when we went up again on August 30 I was mountain-sick, and never afterwards in September regained my earlier strength. Nor I think did Bullock. It is difficult to account for this deterioration, unless we suppose that altitude, though it may have no immediate effect, takes its toll at length. Wheeler, whose experiences of high camps may be compared with ours, may not agree with this conclusion as fitting his own case; but then his case was different.

Exertion at great heights is another matter, and less dubious in its results. I suppose them to be sufficiently well known. I observed especially: (1) Rapid acclimatization much as in the Alps, but even more remarkable. (2) Very little relief in coming down; descent was very definitely an exertion, and fatigue continued to increase, especially on gentle slopes; it was necessary to breathe with conscious effort even when descending. (3) The difference between what we could do, say, at 18,000 feet and 20,000 feet was greater in the case of the coolies, whenever they carried loads, than in others. The coolies always appeared to feel the height more quickly. I put this down partly to the fact that few of them really learned either how to breathe or how to husband their strength. Certainly they were much better towards the end, walking rhythmically, but to the last the majority were inclined to hurry. In any case, a small load makes a big difference, but can be compensated

* Nevertheless, I think it a wise precaution to avoid much sleeping at camps as high as 20,000 feet.

largely by reducing pace. (4) Headache was at least as common after descent as before; but personally, so long as I was perfectly fit, and remembered to breathe properly, I did not suffer from headache. (5) A stomach disordered, even in the smallest degree, enormously decreased one's power of endurance. (6) In the last stages, whether as a result of higher altitudes or unfitness I cannot say, a prolonged exertion required more rest—two whole days. This applies to the coolies as well as to myself and others, too, I believe. (7) I was much surprised to find how easily steps might be cut at 21,000 feet. I found myself quite untired after an hour's work in hard ice. (8) We had little experience of rock climbing; but from such as we had (*e.g.* some steep pitches on one of the peaks which we climbed west of the Rongbuk), I am inclined to think that easy rocks, where one is constantly helping oneself up with arms as well as legs, offer the least tiring way of ascent; and that even comparatively difficult rocks might very well be climbed by fit men up to 23,000 feet.

Finally, it may perhaps be worthy of remark that on the very few occasions when my mind was exerted, I found mental exertion to be tiring at high altitudes and tending to sleeplessness. The life of the lotus-eater was best between expeditions—with perhaps a little piquet.

Is it humanly possible to reach the summit of Everest? We have not a single convincing argument to solve that problem. I felt somehow, when we reached the north col, that the task was not impossible; but that may only have been a delusion based on the appearance of the mountain from that point; it looks much smaller than it is. However, one factor, easily forgotten, is in favour of the assault. The higher one goes the less will be the effect of any given rise. To ascend the 3000 feet above 17,000 is notably less laborious than to ascend the next 3000 up to 23,000 feet; but the atmospheric pressure diminishes less rapidly as one goes up; consequently the difference in effort required between one stage and another should be less at each succeeding stage, and least of all between the last stage and the last but one. I believe it to be possible, at all events, for unladen mountaineers to reach 26,000 feet, and if they can go up so far without exhaustion, I fancy the last 3000 feet will not prove so very much more tiring as to exclude the possibility of their reaching the summit.

But in asserting this bare possibility, which, besides, leaves the coolies out of account, I am very far from a sanguine estimate as to the prospects of success. Before we parted, I put this question to Bullock: "What are the chances that a given party will get up in a given year?" After considered reflection, he replied: "Fifty to one against." That answer also expressed my own feelings. Perhaps at a greater distance from the

mountain I am now more sanguine. If men could be found to besiege Everest year after year, I believe it would surrender at last. But the chances against any particular expedition are indeed very large. I assume that principles time-honoured in the Alpine Club will be honoured no less on Mount Everest than on other mountains. Climbers, of course, are always taking risks; but there are some which experience and *à priori* reason alike reject. A party of two arriving at the top, each so tired that he is beyond helping the other, might provide good copy for the press, but the performance would provoke the censure of reasonable opinion. If any one falls sick at the last camp, he must be taken down with an adequate escort and as soon as possible; and similarly on the final day. And coolies who become exhausted in carrying up their loads cannot be allowed to make their own way down; exhausted they are incompetent, and must be properly looked after. It is with such difficulties and such necessities that we have to reckon; and any reckoning, I believe, which fairly weighs the conditions and circumstances governing such an enterprise can only come to the conclusion that the chances in favour of success for any particular party are small indeed.

Before Colonel Howard-Bury's paper, Colonel Sir FRANCIS YOUNGHUSBAND, President R.G.S., after thanking His Royal Highness the Duke of York for honouring the Meeting with his presence, and reading telegrams of congratulation from the Alpine Club of Canada and the Société de Géographie of Paris, said: We are here to welcome back Colonel Howard-Bury and the members of the Mount Everest Expedition, and to congratulate them upon having exactly achieved the object with which they were dispatched, namely, to discover the most practicable way to the summit of the mountain. They were not instructed to attempt to reach the summit, or to break any record. That task was to be reserved for next year's expedition. But they were expected to find out what was without any shadow of doubt the most feasible way to the top, so that next year's expedition might, without any hesitation, go full speed ahead along that route, and that object they have most definitely and unquestionably accomplished. So now we can set about our main effort on the sure foundations which Colonel Howard-Bury and Mr. Mallory have laid, in perfect confidence that we are on the right track.

"Seek ye first the very highest, and all these things shall be added unto you." We sought first the highest mountain in the world, and now we are seeking the very top of that highest mountain. And already a number of most delightful things have been added unto us. First, we have Colonel Howard-Bury's graphic telegrams and the magnificent photographs which he and Mr. Wollaston sent back, revealing to us mountain scenery of a grandeur not to be surpassed, and the enjoyment of which can now be shared by men in every country and for all time—enjoyment which will be greatly increased when we have the paintings of the artist whom we shall be sending with the expedition next year. Then came Mr. Wollaston's natural history collections, telling us of the height to which life ascends on these highest mountains, and including seeds—already planted at Kew and Edinburgh, and in the Royal Horticultural Society Gardens—of new or rare primulas, gentians, and

rhododendrons and other plants which will add to the beauty of our gardens. After this came a map by Major Morshead, of the whole region ; and another by Major Wheeler, of the mountain itself and its immediate neighbourhood, is expected daily. An account of the geology of the region by Dr. Heron is on its way. Lastly has come the bill. We had expected it to be £5000. Actually it is only £4000—that is, excluding the expenses incurred by the Government of India on the survey.

These results were rendered possible in the first instance by the generosity of our Patron, His Majesty the King, and our Vice-Patron, H.R.H. the Prince of Wales, and other liberal donors to the funds of the expedition, especially the members of the Alpine Club, who, urged on by the persuasiveness of their President and the coerciveness of Captain Farrar, contributed more than £3000. But the chief credit for the satisfactory result is, of course, due to those who worked so arduously on the spot—to Colonel Howard-Bury, who with such skill and address conducted the expedition as a whole, overcame all initial difficulties, and brought the climbers up to the mountain ; to Messrs. Mallory and Bullock for their resolute persistence in ferreting out a way, when they were deprived of the guidance of that experienced Himalaya climber, Dr. Kellas, whose death we so deeply deplore, and of their mountain leader Mr. Raeburn ; to Mr. Wollaston for the thoroughness with which he carried out his scientific duties and looked after the health of the party ; to Major Morshead and Major Wheeler for their untiring energy in mapping so lofty a mountain region, and for the rapidity with which they have furnished us with maps ; and lastly to Dr. Heron, whose energy seems to have been remarkable even among such energetic men.

With this necessarily brief but most sincere acknowledgment of their services, I now invite the chief of the expedition to give us an account of his charge.

Colonel Howard-Bury then read the paper printed above.

Before Mr. Mallory's paper, Prof. J. NORMAN COLLIE, President of the Alpine Club, said : From a mountaineering point of view the Expedition to Mount Everest has been most successful ; an easy route has been discovered, free from any prolonged difficult climbing, by which it is hoped that next year the ascent of Mount Everest may be made. The ascent, however, could only be attempted in the very finest weather, and we are yet ignorant whether much climbing can be done as high as 28,000 to 29,000 feet. The Expedition was sent out this year primarily to make a complete reconnaissance of Mount Everest. This has been done thoroughly. On every side, except on the south, which is in Nepal, all the valleys leading to the great peak have been explored. The climbers, Messrs. Mallory and Bullock, with untiring energy, have been more than once to over 23,000 feet, visited many passes, and explored a large number of glaciers. A magnificent series of mountain photographs have been secured. Taking into consideration the difficulties of climbing at such altitudes, the mountaineers are to be congratulated warmly on their success.

Mr. Mallory then read the paper printed above.

The President expressed his great regret that the lateness of the hour made it impossible to call on Mr. A. F. R. Wollaston, the Surgeon and Naturalist of the expedition, for his account of the very interesting work on the flora and

fauna of the region. All present would be anxious to hear him on another occasion.

Monsieur A. GATINE (Vice-Président du C.A.F.) : Mes premières paroles seront pour vous dire avec quelle gratitude le Comité de Direction du Club Alpin Français a reçu la cordiale invitation qui lui a été adressée pour cette réception magnifique des courageux explorateurs de l'Himalaya. Nous vous prions d'agréer les excuses et les regrets de notre Président, M. le Baron Gabet, que des nécessités impérieuses ont empêché d'être ici ce soir, comme c'était sa formelle intention. Nous sommes heureux, M. Henry Bregeault, Secrétaire-Général, M. Richard-Berenger, Membre du Comité de Direction, et moi, d'avoir en cette mémorable circonstance la bonne fortune d'être les porte-paroles du Club Alpin Français auprès des Membres de l'Alpine Club et de la Royal Geographical Society. Nous saluons dans ces deux Sociétés deux des Associations les plus anciennes et les plus actives du Monde, justement renommées pour leurs travaux et leurs publications. Elles ont su ne pas se reposer sur leurs lauriers, comme nous disons en France, et voici que, une fois de plus, nous les trouvons à la tête du mouvement et du progrès, à l'occasion de l'étude et de l'exploration du massif montagneux le plus haut du Globe. Nous ne saurions oublier que les Membres de l'Alpine Club ont toujours été parmi les plus actifs et les plus hardis des Alpinistes qui se sont attaqués aux cîmes vierges de la Savoie et du Dauphiné. Les noms de beaucoup d'entre eux brillent au premier rang dans ce qu'on a appelé "la période héroique de l'Alpinisme."

Cette période sera-t-elle couronnée, en quelque sorte, dès l'année prochaine par la conquête de la plus haute cîme du Monde? Nous le souhaitons de tout cœur. Nous désirons en tout cas apporter dès à présent les félicitations du Club Alpin Français aux organisateurs que la confiance des deux puissantes associations a chargés de la préparation méthodique d'une expédition aussi hardie que l'assaut du Mont-Everest, et nous exprimons notre admiration aux Savants, aux Alpinistes, aux Topographes dont les travaux et l'endurance ont déjà obtenu ce superbe résultat de découvrir, dès cette première campagne au cours d'une ascension bravement pousée jusqu'à plus de 2000 métres au-dessus de l'altitude du Mont-Blanc, une voie d'accès, qui paraît praticable, vers le sommet du Géant des Montagnes. Nous déplorons que de pareilles expéditions ne puissent se faire sans de très grandes risques, et nous souhaitons aux explorateurs de 1922 de revenir tous en parfaite santé, après que les Alpinistes de l'expédition auront eu l'honneur d'atteindre le plus haut sommet qui dans le Monde reçoive le baiser du soleil.

Mes collègues et moi, nous vous félicitous infiniment de la fraternité cordiale des Alpinistes Britanniques et Français, semblable à celle des combattants de nos deux Nations, qui ont souffert et lutté côte à côte pendant la Grande Guerre, et dans un sentiment de gratitude pour l'amiable accueil fait aux représentants du Club Alpin Français, nous souhaitons tous les bonheurs, tous les succès à votre Altesse Royale, à Monsieur le Président de l'Alpine Club, à Monsieur le Président de la Royal Geographical Society.

The President, in conclusion, offered the congratulations and thanks of the Meeting to the speakers, Colonel Howard-Bury and Mr. Mallory, and to all the members of the expedition; and in the name of the R.G.S. and the Alpine Club thanked the French Alpine Club for their signal proof of friendship in sending a distinguished delegation from France to attend the Meeting.