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 organised a new attempt with oxygen. He and Bruce had been down to No. III. Camp to try to 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.

The Last Climb.

By 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 ft. from Camp. III. to IV. in the fast time of 2½ 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 meanwhile re-testing and putting final touches to the oxygen apparatus.

A few words concerning the nature of Camp IV. and its surroundings may here be applicable. Perched on an ice-ledge in roughly the same position as the camp of 1922, it consisted of four tents. A high wall of ice, rising from the ledge on the western side, gave comforting protection from the prevailing chilling 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 period of eleven days' residence there I experienced all kinds 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 distant sea of peaks to the east, Chomolönzo and Makalu standing supreme among them.

In order to reach the actual saddle of the North Col and the foot of the North Ridge of Mt. Everest it had been necessary in 1922 to make a way from the camp-ledge up towards the North Peak, and then back again along the crest of the col. On the occasion of our first reaching the site of 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 ft., that the weather promised to be perfect for the morrow's climb, and mentioning he was sorry the cooking-stove had rolled down the mountain side just as they were leaving Camp V.—an occurrence 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



CAMP ON N. COL

of sleeping-bags, I kept sufficiently warm to sleep well that night.

Next morning broke clear and not unduly cold. After a breakfast of 'Force' 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 north face in order 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 quite probably Mallory and Irvine were at their higher altitude.

At an altitude of about 25,500 ft. I came upon a limestone band which to my joy contained fossils—the first definite forms found on Everest. I might very briefly refer here to the structure of Everest and its bearing on the problem of climbing it. The lower part of the mountain is formed of a variety of gneisses, and on these rests 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 ft. 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 ft. in height. Trying enough for upward progress, these slabs are often sprinkled to a varying depth with debris 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 ft. 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 ft. 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 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 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, debris-sprinkled slabs may have given much trouble. The oxygen apparatus itself may have needed repair or readjustment 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 2 o'clock, a rather severer blizzard set in and the wind increased. After a short rest I realised it was just possible that, balked 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 V., and asked me to retrieve it. So I went out in the direction of the summit, and having scrambled up about 200 ft. and jodelled 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, realising 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 had remained and they had 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 hard snow near Camp V. and glissaded down to the North Col, reaching the camp at 6.45. That night Hazard's brew of Maggi 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 scrutinised 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 in search, 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 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 only been taking in moderate quantities from the single cylinder that I carried. I switched it off, and experienced none of the feelings of collapse and faintness 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 up 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 realised that the chances of finding the missing ones 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 organised. I returned only too reluctantly to the tent, and then with considerable exertion dragged the two sleeping-bags up to a precipitous snow patch plastrede 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 ft. 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, mere puny man, 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 Chomolungma, 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 realised 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 debris-sprinkled surfaces. I quickened my pace lower down, but at times found it necessary to seek protection from the biting gale behind rocks and reassure myself that no symptoms of frost-bite 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 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—namely, an altitude which Hazard later determined by theodolite to be about 28,230 ft.—and I must now very briefly speculate on the probable causes of their failure to return. They had about 800 ft. of altitude to surmount to reach the top, and, provided 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 necessarily 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, in 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 nevertheless, I fear to remind you, 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 accept the validity of this argument; for, from my own personal experience, being deprived of oxygen, at any rate when one has not been using it freely, does not prevent one from continuing, and least of all from getting down off the mountain. Mallory in his last note to me said they were using little oxygen, and 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 proved 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 Mt. Everest been climbed ? ' It must be left unanswered, for there is no direct evidence. But bearing in mind all the circumstances that I have set out above, and considering their position when last seen, I think there is a strong probability 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 acclimatised at a sufficiently high altitude, say 22,000 or 23,000 ft., 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 acclimatisation 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 connexion 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 acclimatisation. An interesting physiological point is that all members of the Expedition who had been out previously acclimatised quicker than the newcomers. 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 Everest can be climbed without oxygen.