ATTACK ON EVEREST
Early in April a small army of porters, heavily laden with supplies, set out from the Base Camp to establish Camp I, which was located near the snout of the East Rongbuk glacier.
ATTACK ON EVEREST

BY HUGH RUTTLEDGE

ILLUSTRATED WITH PHOTOGRAPHS

NEW YORK
ROBERT M. McBRIEDE & COMPANY
TO ALL

"EVERESTERS"
Grateful acknowledgments are due to my comrades of the expedition who found time to write all but one of the additional chapters in this book; to Dr. S. N. Sen and Mr. N. P. Chatterjee, who contributed a valuable chapter on Himalayan Meteorology; to my wife, who afforded me constant help and encouragement; to Professor Kenneth Mason, who verified all the place-names; to Mr. A. R. Hinks and the staff of the Royal Geographical Society, who gave me much assistance with maps and references; to Mrs. Wade, whose typing was a model of accuracy; and, most of all, to Sir Geoffrey Corbett, who read and re-read the proofs with scrupulous care and gave me the full benefit of his scholarship and his knowledge of mountaineering.

Hugh Ruttledge.
CONTENTS

FOREWORD (BY SIR FRANCIS YOUNGHUSBAND, K.C.S.I., K.C.I.E.) ................................................................. xvii

CHAPTER

I. HISTORICAL .................................................................................................................................................. 23

II. PREPARATION ........................................................................................................................................... 41

III. ASSEMBLY ................................................................................................................................................ 73

IV. THE MARCH ............................................................................................................................................ 91

V. THE LOWER CAMPS .......................................................................................................................... 134

VI. THE HIGHER CAMPS .......................................................................................................................... 166

VII. THE FIRST ASSAULT ........................................................................................................................ 190

VIII. THE SECOND ASSAULT (BY F. S. SMYTHE) ................................................................................ 209

IX. THE THIRD ATTEMPT ....................................................................................................................... 235

X. THE RETURN ......................................................................................................................................... 256

XI. RETROSPECT AND PROSPECT ...................................................................................................... 279

XII. SOME MEDICAL ASPECTS OF THE EXPEDITION ................................................................. 306

XIII. NATURAL HISTORY AND BOTANY .......................................................................................... 320

XIV. THE WEATHER ................................................................................................................................... 326
ILLUSTRATIONS


Setting out from the Base Camp to establish Camp I

Frontispiece

Hugh Ruttledge, E. E. Shipton, F. S. Smythe and E. O. Shebbeare .......................................................... 32
A telephoto showing northern face of Mount Everest... 33
The members of the expedition as seen during various stages of the ascent................................................. 48
Oftentimes the summit of Everest is veiled in clouds... 49
Shekar Dzong is a town of white houses at the foot of a rocky pinnacle...................................................... 64
The head Lama of the Rongbuk Monastery is a man of great influence and reputation............................... 65
The nuns at Tatsang were very much interested in the members of the expedition................................. 65
The expedition's porters needed the blessing of the Lama before they would undertake the ascent of Everest... 80
The meteorologists of the expedition studied the weather conditions with the greatest care..................... 80
F. S. Smythe and E. E. Shipton made the second attempt to scale the summit of Everest.............................. 81
Wager and Wyn Harris were the first to attempt the final dash to the summit............................................. 81
<table>
<thead>
<tr>
<th>Illustration Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tengkye Dzong is located half way between Darjeeling and Everest at the mouth of a wide valley.</td>
<td>96</td>
</tr>
<tr>
<td>Yaks are indispensable beasts of burden in the Himalayas</td>
<td>96</td>
</tr>
<tr>
<td>The Base Camp was established in April while snow was still falling</td>
<td>97</td>
</tr>
<tr>
<td>The East Rongbuk Glacier is one of the mighty rivers of ice which move down the side of Everest.</td>
<td>97</td>
</tr>
<tr>
<td>The peak of Everest is partly obscured by cumulus clouds</td>
<td>112</td>
</tr>
<tr>
<td>Seen from the north, Mount Everest is a gigantic triangular pyramid exposed to the terrible blasts of the west wind</td>
<td>113</td>
</tr>
<tr>
<td>Chomo Lhari is one of the most impressive peaks in the Himalayas</td>
<td>128</td>
</tr>
<tr>
<td>Camp I at an altitude of about 17,700 feet was in full occupation by April 21</td>
<td>129</td>
</tr>
<tr>
<td>Camp IV was established at a height of 22,800 feet</td>
<td>144</td>
</tr>
<tr>
<td>The Chumbi Valley in spring while the snow was still on the ground</td>
<td>144</td>
</tr>
<tr>
<td>Huge escarpments of ice varying in height from fifty to one hundred feet</td>
<td>145</td>
</tr>
<tr>
<td>Crossing a mountain torrent by primitive, native methods</td>
<td>145</td>
</tr>
<tr>
<td>Most of the success of an Everest expedition depends upon the porters</td>
<td>160</td>
</tr>
<tr>
<td>Camp II was one of the important nerve centers in the lines of communication with the other camps</td>
<td>160</td>
</tr>
<tr>
<td>The porters on the expedition displayed extraordinary fortitude</td>
<td>161</td>
</tr>
<tr>
<td>A steep ice slope on the North Col presented the first serious obstacles to the climbers</td>
<td>176</td>
</tr>
</tbody>
</table>
ILLUSTRATIONS

The North Col is a narrow ridge of ice connecting Mount Everest with North Peak.............. 177
A ladder had to be placed on the steep slope of the ice wall ........................................... 192
This is the summit of North Peak, 24,730 feet high... 193
A party of porters and mountaineers set out from the North Peak to establish Camp V............. 224
Behind the wireless the summit of Everest is seen 8,000 feet above .................................. 225
The queen among the lesser peaks, Pumori’s snowy cone is seen here from North Col............ 240
With blizzards, snow and terrible cold nature guards the summit of the world’s highest mountain........ 240
One thousand feet above is the still unconquered summit of some of the highest points of the world on which man has ever stood........................................ 272
This group of men established Camp VI......... 273
These “tigers” performed prodigious feats of strength and courage ....................................... 273
One of the light steel carrying frames used by the porters.................................................. 288
The panorama that reveals itself to the climber is one of incomparable magnificence............... 288
The heroes of the first assault on the summit........ 289
This line of porters is moving along a ledge....... 289
General Map ..................................................... 304
Three dimensional photograph of Mount Everest..... 330
Chronology

March 3. First party left Darjeeling.
March 8. Second party left Darjeeling.
March 25. Expedition left Phari Dzong.
March 29– April 2. At Kampa Dzong.
April 3–5. At Tengkye Dzong.
April 10–13. At Shekar Dzong.
April 16. Arrived Rongbuk.
April 17. The Base Camp established.
April 21. Camp I established.
April 26. Camp II established.
May 2. Camp III established.
May 8. Camp IIIa established.
May 15. Camp IV established.
May 20. Attempt to establish Camp V.
May 22. Camp V established.
May 25. Camp V evacuated owing to bad weather.
May 28. Camp V reoccupied.
May 29. Camp VI established.
May 30. First assault, by Wyn Harris and Wager.
CHRONOLOGY

June 1. Second assault, by Smythe and Shipton.
June 7. Whole expedition back at the Base Camp.
June 15. Camp III reoccupied for the third attempt.
June 21. Camp III evacuated and operations discontinued.
July 2. Expedition left the Base Camp for the return march.
For me it was a very real pleasure when Mr. Ruttledge asked me to write some words of introduction to his book, for my heart has long been in these Everest expeditions, and I was grateful for this further opportunity of helping the world at large to understand a little better the inmost meaning and purpose of these tremendous undertakings.

Looking back, then, over the twelve years since we in the Royal Geographical Society and the Alpine Club began to put the idea of climbing Mount Everest into practical effect, I notice how the inner significance of the enterprise has come to stand out in clearer definition. To climb the highest mountain is an idea which naturally makes immediate appeal to the public. The North Pole and the South Pole have been reached by man, so why not try the loftiest peak? And any man who had devoted himself to mountaineering would naturally jump at an opportunity of immortalising himself as the man who had first placed his foot on the summit of the earth. The appeal to the man in the street and to the skilled mountaineer was obvious. And as soon as it became publicly known that an expedition was being organised to reconnoitre and, if possible, ascend Mount Everest, the greatest interest was shown not only in England, but on the Continent and in America as well.
FOREWORD

But interest grew as it became apparent that this was something more than a mere expedition of mountain experts, and something more than a mere British expedition. It had to be composed of experienced mountaineers, for terrible mountain-eering difficulties and dangers had to be expected. And it had to be all-British because a mixed expedition of different nationalities is difficult to weld together as a whole, and we did not wish to add another strain on the leader. But it was more than an experts’ expedition and more than a British expedition. It was an attempt of the human race itself feeling its way in its natural surroundings, measuring its capacities against physical obstacles, seeing how far it could go, testing the extreme limits of its capacities. Could, or could not, human beings stand an altitude of 27,000 feet, of 28,000 feet, of 29,000 feet? Until men tried they could not know. They could not know how far the human organism would adapt itself to these unusual conditions. Twenty-five thousand feet might be the limit at which a human being could sleep, or 26,000 feet; and if he could not spend a night higher than 26,000 feet, he might be unable to climb the remaining 3,000 feet and back in the day.

Then, as the different expeditions proceeded, man found to his satisfaction that his organism did adapt itself to some extent to the higher regions. As he exercised his organism to the extreme limit, so did his capacities to some extent increase.

The people of the world became more interested now in the enterprise. The race took pride in seeing how men bravely faced and resolutely overcame one obstacle after another, how with indomitable spirit the climbers stood up against the icy hurricanes and every missile which the mountain would hurl against them, and how in danger and disaster they would stand by one another and at risk of life itself support each other.
And then came slowly into view the real significance of the whole enterprise. Those who would presume to pit themselves against the highest mountain in the world must not only be at the top of their physical development and be possessed of the highest mountaineering skill, but, more important still, be animated by an invincible spirit—a spirit firm and tenacious and ambitious enough to drive on the body to its seemingly last extremity, yet selfless enough to throw away all hope of the prize in order to stand by a comrade or give place to another if through him the goal might the more surely be achieved.

So gradually there emerged the figure of Everest as a symbol of the loftiest spiritual height of man’s imagination. And the sight of the Everest climbers struggling ever upward, never losing heart, never despairing, but returning again and again to the struggle, was found to hearten many an aspirant to the heights of the spirit. If these men could fit and train themselves to suffer and sacrifice and endure merely to achieve a great physical height, how much more readily ought they to face the suffering and tribulation and sorrows of life in order that they might attain the highest spiritual height—the whitest, purest, holiest heights of the spirit? This is what many came to think.

Man’s supreme adventure in the material world was seen to be symbolical of supreme adventure in the realm of the spirit. And this record of the Everest climbers’ undaunted efforts has come to be an inspiration not only to mountaineers and geographers, but also to that far more numerous host of humble yet ambitious strivers after the topmost pinnacle of achievement in the varied branches of human activity. It has even given new heart to many a lonely invalid struggling through all adversity to keep his soul steadfastly set on the highest. Its appeal is universal.
A word about the leader. An Everest leader cannot afford to be even a "little lower than the angels." He must be considerably above them. A merely angelic quality will not suffice. For in the midst of all the strain of contest with the physical elements, and among men with nerves frayed to shreds by high-altitude conditions, he must preserve an unruffled composure. Even before he gets to the mountain he must have kept his head level amidst all rival opinions showered on him by those who each believe that his and his only is the one way of achieving success. He will have had to bring together and not amalgamate but harmonise the men, strangers to each other and caught up from the ends of the earth and of very varied callings in life, who will form the climbing party. He will have had to select his corps of porters from amongst the rough hillmen of the Indian frontier and inspire them with an ardour to do the absolutely impossible. He will have had to weld climbers from England and porters from Nepal and Sikkim into one party animated by one spirit. Lastly, and most burdensome of all, his duty will have been to telegraph clear, concise despatches from the mountain and, when he comes home, wind up the expedition affairs, deliver lectures, attend dinners, make speeches and, through it all, write a book.

How far Mr. Ruttledge was endowed with the high qualities necessary in an Everest leader, readers must judge for themselves. My own mind is in no doubt. Nor, I gather, is the mind of any member of the expedition.
ATTACK ON EVEREST
CHAPTER ONE

Historical

The story of the Mount Everest Expedition of 1933 would be incomplete without a historical background. It describes but one of the four attempts which have been made to climb Mount Everest, and those attempts themselves were only a part of man's effort to reach the higher summits of the world. No such expedition stands alone. It is a stage in the evolution of mountaineering, in the adaptation of the body to exotic conditions, in the mastery of matter by the spirit. It starts equipped with experience dearly won by other men through toil and danger, sometimes at the cost of valuable lives. If it succeeds, it must pay tribute to those who went before; and if it fails, consolation will be found in the hope that it has sown what others may worthily reap.

Many still seek the causes lying at the root of these endeavours. Within living memory the great Swiss peaks were regarded with fear as the abode of unfriendly spirits, made manifest in the destroying avalanche. The bold chamois-hunters, in whom originated the best of the early guides, had the high hills almost to themselves, and even they rarely ventured into the regions of everlasting snow. In the Himalaya to this day the summits of the foot-hills are the scene of pro-
pitiatory sacrifice. It is not long since Hindu devotees used to go forth not to climb the mountains but to die, while poets sang their praise. Every year some 40,000 pilgrims from the hot plains of India face the cold and fatigue of the ascent to Badrinath in the Kumaun Himalaya, and the more resolute continue over the high passes to the snows of Mount Kailas, where they are joined by the Buddhists of Tibet and even of distant China. It is all holy ground: hardship and exposure will bring them remission from their sins and the favour of the gods.

The English, having no high mountains of their own, lacked this ingrained fear and desire to propitiate. Their long apprenticeship to the sea taught them to face the convulsions of nature in a spirit of adventure and enquiry. When travel brought them among the mountains, they wished to explore, to test themselves against difficulties, to enlarge the boundaries of science. Then, true to their nature, they made a sport of this new experience, and Switzerland became "The Playground of Europe."

At the time when Mount Everest was "discovered" by the Great Trigonometrical Survey of India in 1852, the sport of mountaineering had scarcely attained its majority. The Matterhorn was to remain inviolate for another thirteen years; the Caucasus was practically unknown, save to poetic imagination; and, although certain officers of the Indian Survey had reached some remarkable altitudes in the Himalaya, they had done so in the course of their work and not in pursuit of any mountaineering object. During the next sixty years all the greater peaks in the Alps yielded to assault, while men began to look farther afield. The great ranges of the Caucasus were explored by Freshfield, Donkin, Mummery and others; of the Himalaya, by the Schlagintweits, Smythe, Graham, Younghusband, Conway, Mummery, Bruce, the Workmans, Freshfield, Rubenson and
Monrad Aas, Longstaff, and the Duke of the Abruzzi, to mention but a few. The pioneers quickly discovered that they had to contend not only with the technical difficulties of rocks, snow and ice, but also with the difficulties of acclimatisation to high altitudes and extreme cold, to say nothing of the total absence of travel amenities. Preliminary and most valuable work had been done in the Himalaya by travellers and sportsmen whom exploration or the habits of ibex and markhor compelled to acquire a certain mountain technique. It is to the eternal credit of the Survey Officers that, hampered as they were by lack of time and by the exigencies of budgets, they produced such remarkably accurate maps of that colossal range which stretches for 2,000 miles from the Karakoram to the Brahmaputra.

In every age will be found men who look beyond the standards of the present to those of the future. Among them were Brigadier-General Hon. C. G. Bruce and Sir Francis Younghusband, who in 1893 formulated a plan to explore and, if possible, climb Mount Everest. But a mountain which stands on the frontier between Nepal and Tibet could not be easy of approach. Nepal, no doubt for valid political reasons, has steadily discouraged strangers. Tibet pursued an even more consistent policy of isolation till fate decreed that Sir Francis Younghusband, denied access as traveller and mountaineer, should enter Lhasa at the head of the Political Mission of 1904–5.

Men do not readily relinquish an ambition once firmly held. Treaty obligations forbade pressure, however friendly, upon the Nepalese Darbar, and hopes of access to Mount Everest from the south were the more readily abandoned because it was suspected that the southern face presented mountaineering obstacles of the highest order. But the idea of an approach
through Tibet was encouraged by that great Viceroy and traveller, Lord Curzon, and by his successor, Lord Minto. It occurred to the indefatigable General Bruce, Dr. T. G. Longstaff and the late Mr. A. L. Mumm that the jubilee of the Alpine Club could not be better celebrated than by an attempt on Everest. Colonel C. H. D. Ryder and the late Brigadier-General C. G. Rawling had already reported that the mountain looked accessible from the north, and in 1906 the Secretary of State for India, Viscount Morley, was invited to approach the Tibetan Government with proposals for an attack from that side. It was hoped that the Tibetan authorities, reassured on the subject of military or economic exploitation, might grant permission. Unfortunately Lord Morley would have nothing to do with the project; but in 1920 the Royal Geographical Society, having first ascertained that the India Office would have no objection, invited Lieutenant-Colonel C. K. Howard-Bury to proceed to India to negotiate personally with the Viceroy, Lord Chelmsford, and the Political Agent in Sikkim, Sir Charles Bell. Their friendly co-operation secured the Tibetan Government's consent to an expedition.

Sir Charles Bell, who was a personal friend of the Dalai Lama and is still spoken of with affection in Tibet, has kindly permitted me to publish the following account of his negotiations:

"Until I received orders to go to Lhasa, I was unable to recommend to our Government that I should ask the Tibetan Government for permission for an expedition to Everest. The deep seclusion of Tibet breeds among its people a deep mistrust of those living in other lands and under other religions, and especially of the powerful white foreigners coming ever nearer and nearer. But when I came to Lhasa the problem of asking
for this permission was greatly simplified. Letters are slow and incomplete, but speaking to your friends you can put your points and answer questions. So, as the Government of India left it to my discretion, I decided to place the matter before the Autocrat of Tibet.

"My interviews with the Dalai Lama took place in the inner sanctum of his palace at Nor-bu Ling-ka, one mile outside Lhasa. This large room, where he sits and works for the greater part of each day, is fitted up half as a Tibetan chapel, half as an English sitting-room.

"At my first interview, in the latter half of November, nothing could be said or done. The diplomatic situation that I had come to discuss, not even that could be mentioned. This first reception is purely ceremonial and personal. 'Why, why did you not come in the summer, when the weather is warm and the flowers are out? In Tibet the winter is very cold.' So said His Holiness as he walked across the floor of the room to meet me and grasped both my hands in welcome. To discuss business at the first meeting would transgress the laws of courtesy and make the path uneven.

"At my second visit, after the diplomatic chessboard had been set, I raised the question of Everest and produced a map showing its position. When putting the western point of view before His Holiness, I agreed that Tibetans generally would not understand it and might suspect that some sinister motive lay behind.

"'But,' I continued, 'I have been engaged for many years on Tibetan affairs, high and low, and I cannot remember ever doing anything to harm Tibet.'

"'Only benefits; harm you have not even once done,' replied the Dalai Lama. And then, after a short interval of
thought, 'Please leave the map with me, that we may consider and understand this new thing.'

"On the following day the Lama's Chief Secretary came and studied the map and the whole question with my Personal Assistant, a Tibetan from Sikkim, who had worked with me for sixteen years and understood the politics of Tibet as well as the feelings of the people.

"During my next visit, on December 9th, it was the Dalai Lama who raised the subject. He told me that he gave his consent to the expedition. At the same time he handed me a little brown strip of the parchment-like paper made in Tibet. On this was written in the cursive Tibetan script a sentence which may be translated as follows: 'To the west of the Five Treasuries of Great Snow, in the jurisdiction of White Glass Fort, near Rocky Valley Inner Monastery, is the Bird Country of the South (Lho Cha-mo Lung).'

The imagination lingers over those first meetings between the ruler of a secluded people, remote on the wind-swept roof of the world, last stronghold of antiquity, and the representative of those distant islanders whose restless energy had spanned the seas to disturb the East. In what direction would that force turn next? Already, fifteen years ago, it had advanced relentlessly to the Potala. Would it return, this time to remain? What was this talk of climbing the highest mountain in the world, of entering the abode of the gods? These strangers had even a map of the region and could find unaided that "Bird Country of the South." What possible, what conceivable object could they have? Such may have been the thoughts of the Dalai Lama as he watched the man who pleaded this strange cause, yet who never once, over many years, had done harm to Tibet. The Dalai Lama's consent was undoubtedly a
gesture of friendship to a man whom he trusted. Years of diplomatic correspondence could not have effected the removal of that barrier against the unknown. The episode is creditable no less to the recipient than to the giver.

The mountaineering world sprang into instant action. By the joint efforts of the Royal Geographical Society and the Alpine Club a party was rapidly organised under the command of Colonel Howard-Bury. Its fortunate members must have felt a sincere regret that opportunity had come too late for the pioneers to share the great adventure.

It has been well said that the first three rules of Himalayan mountaineering are: “Reconnoitre, reconnoitre, and again reconnoitre.” Many of the great Alpine peaks only yielded to repeated assaults. Kamet was not conquered at the first attempt. Though the southern face of Mount Everest, for both political and mountaineering reasons, might be ruled out of account, the remainder would demand much of surveyor and mountaineer before the ascent proper could begin. The far-flung ramparts of the Himalaya are of bewildering intricacy; the peaks are usually hidden after midday by the cloud-screen rising from the hot plains of India, or from the hot sub-tropical valleys of the foot-hills; and the high plateau of Tibet, westwards from Kampa Dzong, was practically unknown. The expedition of 1921 was therefore very properly termed “The Reconnaissance,” and preparation was made for “The Assault” of 1922.

Colonel Howard-Bury’s party left Darjeeling on May 19th. Though the monsoon of 1921 did not develop full intensity in Tibet till July 7th, operations were much hindered by rain, snow and mist, yet they were magnificently successful. Morshead and Wheeler mapped the environment of Mount Everest to north, east and west, as well as the Tibetan plateau en route;
and Mallory, Wheeler and Bullock, after months of exposure and high mountaineering, discovered the Chang La or North Col, the key to the position. Unfortunately they missed the best approach to this point by way of the Rongbuk Monastery, sixteen miles to the north, and the East Rongbuk glacier, and arrived there over the high Lhakpa La Pass on the east. They had already ascended the main Rongbuk glacier, only to find the north face of Everest towering in a series of unclimbable cliffs above them. Mallory, however, saw the western side of the Chang La from this point, and his mountain instinct led him to suspect the presence of an easier approach from the east. To reach it he had to go round into the Kharta Valley, unaware that the insignificant-looking little torrent, crossed on the left during his ascent, drains the long East Rongbuk glacier and marks the best way to the mountain.

Much was learnt by this expedition, besides the lie of the land and the direction of assault. Long association with the Sherpa and Bhutia porters produced a high respect for their endurance, capacity for load-carrying, adaptability to high mountains and cheerful acceptance of discomfort; also a knowledge, so far as it went, of their limitations. Not less valuable was the study of weather conditions in this part of the Himalaya, and especially of snow precipitation on Mount Everest. Mallory’s Chapter XVI in *The Reconnaissance* is a model to explorer mountaineers, with its close scrutiny of the particular and intelligent deduction of the general. Lastly, Tibetan fauna and flora and the geology of the region were carefully examined.

Thus the stage was set for the drama of the assault. Subsequent expeditions could concentrate on the one object of climbing the mountain, undistracted by the need for prolonged reconnaissance of its intricate approaches. Wheeler’s photographic survey placed beyond doubt the advantages of the East...
Rongbuk glacier as a means of advance; and of Mallory's capacity to choose a line of attack there was no question.

For the expedition of 1922 the leader, General Bruce, naturally collected a party strong in climbers, and his unrivalled knowledge of Himalayan peoples ensured a fine body of porters. Mallory would, of course, go again, and Morshead. Strutt, Longstaff, Wakefield, Norton, Somervell, Finch and Crawford were seasoned mountaineers. Geoffrey Bruce, the unrivalled transport officer, was soon to show himself a climber also. They left Darjeeling on March 26th.

Much knowledge and experience had still to be acquired. For instance, though the monsoon of 1921 was late in arrival and in departure, so far as the Everest region was concerned the observations of a single season could have no statistical value. It was thought that the period of May and early June should afford the best climbing weather, assuming that a normal monsoon might be expected to reach Everest about the middle of June. A break in the rains might be utilised for further effort, and September and October could not be altogether ruled out of consideration, despite Mallory's experience of 1921 and the certainty of shorter days and cold.

Again, the capacity of men to reach very high altitudes was still matter for conjecture. The Duke of the Abruzzi's expedition had reached a height of 24,600 feet in the Karakoram Himalaya. Further progress would be experimental. Some physiologists were inclined to suppose that the limit would be reached somewhere about 25,000 feet and that an artificial supply of oxygen would be essential if men were to go higher. Their experiments were, of necessity, conducted in pressure chambers and on men unacclimatised to high altitude, or on pilots of the Royal Air Force whose machines carried them up quickly without exertion.
Hugh Ruttledge, leader of the 1933 Mt. Everest expedition, and E. E. Shipton.

F. S. Smythe, and E. O. Shebbeare, the transport officer of the expedition.
This telephoto was taken by Captain Noel of the 1924 Everest Expedition from the Base Camp. It shows the northern face of Mt. Everest, the upper camps V and VI and the routes adopted by the expedition in 1933.
The monsoon of 1922 reached Mount Everest during the first week in June, but by that time a tremendous amount of work had been done. Three camps had been placed on the East Rongbuk glacier; a fourth near the crest of the North Col; and a fifth, the highest, on the north ridge above the Col at about 25,000 feet. Mallory, Norton and Somervell, without oxygen, had reached a height of 26,985 feet, while Finch and Geoffrey Bruce, using a heavy and cumbersome oxygen apparatus, had reached 27,300 feet. The result offered fine scope for argument between two schools of thought and the issue was somewhat confused, for Everest had not been won: bad weather and an accident to Bruce's oxygen apparatus had delayed Finch's party, and Mallory and his companions had climbed on a minimum of acclimatisation. Operations were brought to a close on the sad day of June 7th, when the snow slopes of the North Col, softened by the warm winds of the monsoon, avalanched and killed seven porters.

Whatever arguments might be raised among men of science by the results of the second expedition, mountaineers were satisfied that a great step forward had been taken. Much was now known about the structure of the mountain, and so far no difficulty had been encountered which need stop a strong party, given good weather, ample time, acclimatisation and, if necessary, an improved oxygen apparatus. One obstacle to progress had been the presence of snow on the outward-sloping limestone slabs of which the north face is composed. Should this snow consolidate or, better still, should the rocks be found dry, there appeared to be no reason why the climb as such should not "go." It remained to be seen if porters could be induced to carry a camp higher than 25,000 feet, and if climbers could sleep in a camp so formed and withstand the cold and
fatigue and oxygen-lack of the last 2,000 feet or so. Everest was still considered to be, in a technical sense, an easy mountain.

On the other hand, medical examination very soon showed the toll which these high climbs exacted from the hardest constitutions. Whether he had used oxygen or not, every member of both climbing parties, with the single exception of Somervell, was found to be suffering from a temporarily dilated heart. Clearly, if the last 2,000 feet were to be surmounted, further study was needed to improve equipment, food-supply, acclimatisation and apparatus, and to prepare the climbers for a yet harder ordeal. Inevitably considerations of time and pace must govern the tactics of the final assault. Data were still, in some respects, few and imperfect.

Much care was devoted to the examination of these problems during the next two years; and when, on March 25th, 1924, General Bruce led forth the third expedition from Darjeeling it was felt that everything possible had been done to ensure success. To begin with, there was a very strong nucleus of acclimatised men, Mallory, Norton, Somervell and Geoffrey Bruce; for proof was quickly forthcoming that acclimatisation lasts over a period of some years, or that men who have been high have a greater acclimatising power. Again, the oxygen apparatus had been improved and lightened, and more time had been available for collection of equipment and stores and for discussion of climbing plans. Lastly, the new climbers, Beetham, Hazard, Odell and Irvine, showed every promise of strength and endurance, and Shebbeare had come in to assist Geoffrey Bruce in transport work.

The story of this expedition is one, so far as is known, of heroic failure, of misfortunes bravely met, of immense exertion, of tragedy, of defeat perhaps more glorious than success.

Scarcely had the expedition left Phari, on the plains of Tibet,
when the General collapsed with fever. His absence was a sore trial to the party, but happily he found in his successor, Norton, a man of immense strength, moral and physical, under whose leadership there would be no weakening of spirit. Then dysentery attacked Beetham. He defeated this by sheer will-power, only to fall a victim to sciatica at the Base Camp. Still the party as a whole arrived at Rongbuk in good heart, and earlier than its predecessor.

A dominant wish, resulting from the accident of 1922, was to climb the mountain before the monsoon rendered the slopes of the North Col unsafe. So the work of establishing the lower camps was pressed on with a minimum of delay. Tibetan labour was enrolled to save the regular porter personnel for the climbing higher up, and everybody worked at the highest pressure. Camp III, at 21,000 feet, was actually set up and occupied six days after arrival at the Base Camp. Then trouble began. A series of western disturbances, originating probably in Persia and quite unconnected with the monsoon, swept one after the other across the Everest region. They brought the worst kind of blizzards and very low temperatures, and imposed an intolerable strain both on climbers and on porters. The expedition tents, strong as they were, gave insufficient protection against these unexpected conditions, and it may be that the rapid advance up the glacier contributed to reduce the men's power of resistance at these altitudes. They were perhaps short of acclimatisation. The breaking-point of a Sherpa porter's spirit can be very suddenly reached. In this case, at Camp III, a collapse set in which nothing but the most resolute leadership was able to get under control. A retreat to the Base Camp, however, soon set the men on their legs again, camps up the glacier were quickly re-established, and the North Col was reached in good time. But the bad weather from the west con-
tinued, and on one occasion four porters were marooned on the North Col, having failed to follow down their companions and the escorting climber. This entailed a most exhausting and dangerous rescue by Norton, Mallory and Somervell, who were thus subjected to great strain at the very moment when all their energies were most needed for the attack.

Again the expedition had to retreat to the Base Camp; but again the refusal to be beaten, fortified by the blessings of the old Lama of Rongbuk and by an improvement in the weather, brought the porters up. By this time only fifteen could be found able and willing to go higher. With these fine fellows' help the three assaults of 1924 were launched, followed by Odell's two great efforts in support. It was a performance of which any mountaineers might be proud, an example to all who would essay the greater Himalaya.

One June 1st Mallory and Bruce led the first wave of attack up the north ridge above the North Col. Watching from below at Camp III, Norton recorded in his diary that it was a perfect day. He could not be aware that the terrible north-west wind of Tibet was raging over the ridge, taking all the heart out of the porters. Camp V was established with difficulty at about 25,200 feet, but next morning the men, though carefully picked and led by the climber who best understood them, refused to go on, and there was nothing for it but retreat.

Norton and Somervell, with fresh porters, reached Camp V on June 2nd in slightly better condition. But only those who have experienced the cold of these regions can realise the effort which it cost Norton on the morrow to stand for four hours outside the porters' little tent, persuading them to continue. The establishment, for the first time, of a Camp VI at 26,800 feet was a tremendous advance.

There were two opinions as to the best route to the summit.
Mallory always intended to climb straight up to the great north-east arete and follow it to the final pyramid, trusting to be able to climb the two nearly vertical steps which guard the way. Norton and Somervell, convinced that the second step was unclimbable, preferred a traverse across the north face, keeping some 300 feet below the north-east arete. This would involve crossing the steep snow couloir or gully just east of the pyramid, and perhaps some difficult climbing beyond it, but the last 900 feet or so looked practicable. They followed this route on June 4th. Only too soon it became evident that their exertions on the glacier below during the month of May had told severely upon them. Somervell was suffering torture from an "altitude" throat, which brought about his collapse at about 28,000 feet, close under the second step. Norton began to be affected by double vision, the precursor of snow-blindness. This was due partly to the fact that he had removed his snow-goggles in the effort to see exactly where to place his feet, and partly perhaps to exhaustion and oxygen-lack. But he struggled on alone, passed beneath the second step, crossed the couloir with its treacherous powder snow, and was brought to a standstill at a height calculated afterwards by theodolite to be over 28,100 feet. The slabs in the neighbourhood of the couloir dip steeply outwards, the angle increasing steadily towards the west. They afford little or no hold for the hands, and the climber is forced to rely for safety on the mere friction of his boot-nails. One slip, and only the main Rongbuk glacier, 10,000 feet below, can arrest his fall. When powder snow of the consistency of castor sugar lies on these slabs ready to slide off at the first touch of the foot, the difficulty and danger of the passage are, of course, immensely greater. It was a mercy that Norton, in his exhausted and half-blind state, was able
to return. Both he and Somervell were at the end of their re-
sources when they reached the North Col that night.

The end was not yet, for the indomitable Mallory had mean-
while planned one more assault, in which Irvine was to be his
companion. Oxygen was used this time, so that every possible
factor of success should be brought into play. Leaving the
now totally snow-blind Norton at the North Col, the two
climbers reached Camp V on June 6th and Camp VI on June
7th. The weather was perfect, and a last note which Mallory
sent down to Odell from Camp VI indicated that all was
well. After that, silence complete and unrelieved; and for
nine long years men longed to solve the mystery of their fate,
hoping that, although two valuable lives were sacrificed, at
least the summit was attained. The expedition of 1933 made
a discovery which will be related in its proper place.

Odell had the task of following up this party in support.
He had acclimatised very slowly, but now, after seven days
spent at the North Col, he was to put up a performance which
has never been surpassed. In the course of four days he twice
ascended to a height of about 27,000 feet, alone. On the first
occasion he believed that he saw the two climbers near the
second step. But clouds were moving over the north face and
the north-east arête, and he could not be absolutely sure of their
position. The matter will be fully discussed in a subsequent
chapter. Odell's second ascent was in search of the missing
men. It was just possible that they had dragged themselves
back to Camp VI, but had been too exhausted to signal their
arrival there or to continue the descent. Alternatively, some
trace of their passage might be found, some indication of their
fate. Odell did all that a man could do, alone and in bad
weather. He could only make sure that Mallory and Irvine
had not returned to Camp VI. They must therefore have per-
ished. He closed the little tent at Camp VI, signalled the news of the tragedy to the watchers below, and descended through the gathering storm of the monsoon.

The events of the expedition of 1924 have been narrated and discussed in greater detail than have those of the previous expeditions, because they provide such wealth of data. *The Fight for Everest, 1924,* is a storehouse of information, and we in 1933 were deeply indebted to the authors of that book. Moreover, the surviving members of that expedition have spared no pains or trouble to place their experience at the disposal of their successors, and to hand on the torch undimmed. If that torch has been at all worthily carried in 1933, the example and precept of all previous Everest expeditions, and especially that of 1924, have shown the way.

I cannot close this chapter without paying a tribute to the tenacity of purpose which Sir Francis Younghusband has devoted to the pursuit of this great venture. No difficulty, no discouragement, has had the power to divert him by one inch from the path of steadfast endeavour. When success is at last attained, as it will surely be, I trust that men will not forget what they owe to his patient work and tireless resolution.
CHAPTER TWO

Preparation

After eight years of hope deferred, the friendly endeavours of the India Office, of the Government of India and of Lieutenant-Colonel J. L. R. Weir, Political Agent in Sikkim, secured at last the consent of the Dalai Lama to another expedition to Mount Everest. The welcome news came through towards the end of August 1932, and it was obvious that the work of organisation would have to begin at once to enable the new expedition to leave England in January 1933.

The Mount Everest Committee, composed of Fellows of the Royal Geographical Society and Members of the Alpine Club and presided over by Admiral Sir William Goodenough, met without delay. Their first task was to choose a leader. General Bruce, whose name is still one to conjure with throughout the Himalaya, was no longer available in an active capacity. The obvious man for the post was Brigadier E. F. Norton, who was still capable of repeating his exploits of 1922 and 1924. But he had recently taken up an important appointment at Aldershot and did not feel justified in relinquishing it. The next possibility was Major Geoffrey Bruce, whose work in 1922 and 1924, both as transport officer and as climber, had won golden opinions. He, however, was about to go out to India.
as an instructor at the Staff College, Quetta, and so was not free. It was essential to choose someone with an adequate knowledge of Himalayan peoples, as well as mountaineering experience. Eventually the lot fell upon me. I had had the good fortune to serve for nearly five years in the Himalayan district of Almora and had climbed a good deal with Gurkhas and Sherpas. I had also spent vacations and subsequent periods of service leave in Switzerland, where a chance meeting with Edward Whymper at Zermatt in 1906 first turned my thoughts to the great mountains. Now, at the age of forty-eight, I was requested not to attempt the higher ascents myself.

My right-hand man in England was J. M. Scott, the secretary to the expedition, who had been the friend and companion of Watkins in Greenland. His experience of expeditions, his knowledge of men, and his imperturbable temper were invaluable to me in the work of preparation.

The composition of the party for Mount Everest required, of course, the most earnest consideration. Here a free hand was given me, on the principle that the man who is to be responsible for a team should choose it. An application file was opened, the contents of which are ample evidence that the spirit of adventure is still very much alive in England. In it are represented the Navy, the Army, the Civil Services, University professors, undergraduates, schoolmasters, men of science, pugilists, a barber, a steeplejack and last, but certainly not least, schoolboys. Many of them had never been on a mountain in their lives and had no idea of what a big Himalayan climb means. However, it was pleasant to realise that such keenness existed. The Tibetan Government had stipulated that the European personnel of the expedition must be British. We could not, therefore, include any of the fine mountaineers of the Continent and of America. But there was no lack of trained
talent in Great Britain and the Dominions, especially in the school of young guideless climbers which has grown up during the last twenty years.

Though not perhaps as remorseless to mountaineers as to the votaries of many other sports, Time cannot be denied, and more than one first-class man, still tireless in the Alps, had to be passed over. The middle-aged could but hope that some special qualification might be pressed into the service, such as Himalayan experience, knowledge of Eastern languages, or scientific attainment, and that long training in the hard school of mountains would enable them to look medical boards in the face. The young proffered in all modesty their records of many a hard-fought climb. Nothing could be more pleasing than the generous way in which one man would recommend another, at the risk of himself missing the judge’s eye. It was indeed difficult to choose from so rich a field of talent. Mountaineering capacity and fitness were, of course, essential. For the rest one had to judge, partly from hearsay and partly from personal interviews, whether a candidate had the character to withstand the terrific strain of such an enterprise. An advisory sub-committee, consisting of Brigadier Norton, Dr. Longstaff and Mr. Sydney Spencer, Honorary Secretary of the Alpine Club, gave me much valuable assistance, and I was privileged to have the co-operation of Mr. Geoffrey Winthrop Young, himself the finest English climber of his time, who trained Mallory, who has done more than any man to encourage British talent, and who knows all the best young mountaineers of to-day. Without this help I could have done little, for my service in India had kept me out of touch.

In the unavoidable absence of Norton and Geoffrey Bruce, the first obvious choice was N. E. Odell, whose performance in 1924 was so outstanding. Fortune served us no better here,
for domestic obligations compelled Odell to return a reluctant refusal. But for the long interval since the last expedition we might have had the services of that great mountaineer, T. H. Somervell. But he had devoted ten years to the work of a medical missionary in Travancore, and no man, however tough, can come out of that ordeal unscathed.

One of the veterans was, however, available in C. G. Crawford, now retired from the Indian Civil Service. He had a long mountaineering record: in England, Scotland and Wales, in the Alps, on Kangchenjunga with Raeburn in 1920, on Mount Everest in 1922, and with Odell in the Canadian Rockies. On Everest he had been found to acclimatise slowly, but we knew from Odell's record how well a slow acclimatiser could go, given time. Crawford had no chance in 1922, for operations were then brought to a premature close by the avalanche of June 7th, in which he was himself involved.

Most fortunately some well-acclimatised mountaineers were to be found in members of the party which climbed Kamet, in the Kumaun Himalaya, so recently as 1931. This was the highest summit yet attained. The leader, F. S. Smythe, first made his mark as a mountaineer by two very difficult new ascents on to the southern face of Mont Blanc. He was a member of the international expedition which attempted Kangchenjunga under the leadership of Professor Dyrenfurth in 1930. We had, therefore, in Smythe a mountaineer of established reputation, of great experience in all branches of the art, and splendidly acclimatised.

Another member of the Kamet party was Eric Shipton. Though only twenty-five, he was already known as a fine climber. After much experience in Switzerland he became a settler in Kenya. He made four ascents of the very difficult Mount Kenya, and also climbed Kilimanjaro and the highest
summits of Ruwenzori, the "Mountains of the Moon." Of magnificent physique and a beautiful rhythmical mover on difficult ground, he was certain to go high.

Thirdly, there was Dr. Raymond Greene, our principal Medical Officer. He was an ex-President of the Oxford University Mountaineering Club and had climbed much in England, Wales and Switzerland. Incidentally he was the tallest member of any Mount Everest expedition. He was thought to be the only representative of Oxford among a horde of six Cambridge men, until we discovered that the much-travelled Boustead had contrived to put in a year at Oxford studying Russian.

Lastly came Captain E. St. J. Birnie of Sam Browne's Cavalry. Like most officers serving in India, he had had little leisure for climbing at home or in Switzerland, but he had made a good name for himself on Kamet, both as transport officer and as climber.

So much for the Kamet party. A name frequently brought to my notice, invariably with the preface "You simply must take him," was that of Wyn Harris. He was now in the Kenya Civil Service and had made two ascents of Mount Kenya with Shipton. While at Cambridge he got his Blue for cross-country running and, as Secretary of the Cambridge University Mountaineering Club, he did much to encourage proficient guideless climbing among undergraduates.

Just in time, L. R. Wager returned from his second Greenland expedition. He had been one of Watkins's companions, and was known to be not only a good traveller but a thoroughly competent, sound mountaineer, who had climbed a good deal with Wyn Harris and Longland, always without guides. He was a lecturer in geology at Reading University.

J. L. Longland was already well known as one of the best of the modern school of British rock-climbers, whose technique
must surely be nearing the limit of which human beings are capable. He had also plenty of Alpine experience. The activity which had gained him a Blue for pole-jumping at Cambridge made him a fast and safe rock-climber. He was a lecturer in English literature at Durham University.

Major Hugh Boustead, now Commandant of the Sudan Camel Corps, had long cherished the ambition to join a Mount Everest expedition. In pursuit of this aim he climbed and ski-ed for some seasons in the Alps, and then organised on his own account, in 1927, an expedition to the Lhonak region of the Himalaya, in the course of which he reached “Windy Gap” in bad weather. As he was the only European in the party and brought his Sherpa porters back safe and in good heart, it was evident that he had managed them well. His career had been remarkable. Beginning in the Navy, he transferred to the Army and served on many fronts during the War. He also won many Service boxing championships and captained the British Pentathlon team at the Olympic Games of 1920.

T. A. Brocklebank was initiated during his Eton days into the delights of guideless climbing and spent many of his school holidays and University vacations in this way. The fact that he stroked the winning Cambridge boat on three occasions gave promise of determination and staying power. He was twenty-four, the youngest member of the party.

Dr. W. McLean was invited to join as second Medical Officer. He had a good athletic record at school and college, and quite a long list of Alpine peaks to his credit. Desiring to see something of the world, he had recently abandoned a good practice in London to join the staff of the Mission to the Jews at Jerusalem. He served in the Royal Artillery during the War.

George Wood-Johnson’s history clearly marked him out as a valuable member of the expedition. In early youth he did
much rock-climbing in the English Lake District. Then his imagination was fired by the history of the sieges of Mount Everest, and a talk with Shebbeare, the transport officer of the 1924 expedition, decided him to take up tea-planting in the Darjeeling district, where he would learn Nepali, the lingua franca of the hills, and have opportunity for mountaineering in the Sikkim Himalaya. He carried through this programme with steady determination, and showed himself to be a hard worker on Professor Dyrenfurth's expedition of 1930. On that occasion he went to a considerable height with Smythe on Jonsong peak and might have, like Smythe, reached the summit but for a sudden attack of illness.

All members of the party with the exception of the leader had, so far, been selected with the definite idea that they were potentially capable of taking part in the final assaults on the mountain. Scientific or other attainments were secondary considerations, and everything had to give way to mountaineering proper. But it remained to choose a transport officer. Clearly this should be E. O. Shebbeare, who had a fine record of work in this capacity in 1924. Shebbeare was now forty-nine, the oldest of us all; but he was not expected to go high, or in fact to climb at all, and he was known to be an extremely tough customer. An officer of the Indian Forest Service, he knew and understood the people of the hills, and of course spoke their language.

Thus was completed a party of fourteen, of an average age of thirty-four years. Those at home had still to pass the searching tests of the Royal Air Force, while those serving abroad were of course examined locally. We envied the latter, for our overhaul by the R.A.F. Medical Board was an ordeal indeed. For three mortal hours the trembling candidates were subjected to every test which could possibly reveal a weakness,
These three photographs are of the members of the expedition as seen during various stages of the ascent. The upper picture shows the expedition at the Base Camp in June. The center photograph was taken at Phari before the actual ascent was begun. The lower picture shows the mountaineers and porters who established Camp V.
Oftentimes the summit of Everest is veiled in clouds. Here is a photograph of one of the curious capping-clouds which are often seen hanging over the summit of the mountain in the mornings.
of mind or body. Their dreadful pasts were dug up, their every movement and reaction analysed. I defy any man to retain dignity and composure when balancing on one foot with his eyes shut, or when required to step on to and off a chair several times in succession while his inquisitor hangs on to his wrist, counting the heart beats. Again, it is difficult to remain unself-conscious when, your face rapidly turning from crimson to magenta, you endeavour to hold your breath for a couple of minutes. Heart and lungs, of course, received the closest attention. We were X-rayed, pummelled, kneaded, and almost turned inside-out. Yet our inquisitors, though sternly devoted to their duty, were human. They knew exactly what was wanted in a pilot of the Royal Air Force. An Everest candidate was terra incognita. Who could say definitely if a man would acclimatise well on the mountain, or what would be the result on the individual of the change of climate, of the long preliminary marches across Tibet, of months of intense strain, physical and moral, and of cold, wind, loss of appetite and sleep, and all the inevitable discomforts of a Himalayan expedition? Provided that he had no pronounced failings, he might serve. So with some provisional reservations, some shaking of the head, a favourable verdict was pronounced, and we breathed again with what little breath was left to us after blowing up columns of mercury and inflating machines with their dial recorders.

But this was not all. Dr. Claude Wilson, himself a famous mountaineer and ex-President of the Alpine Club, is also a heart specialist, and to him we had to go for a final trial. But he was a kindly judge and acquitted us all. When my turn came, General Bruce came along for the fun of the thing. Of malice prepense, Dr. Wilson gave us a magnificent lobster lunch and examined us immediately afterwards. If a man could
stand that, he could stand anything. The General and I had an amusing competition. I forget which suffered the more.

The bogy of the medical examination once well and truly laid, we could turn with relief to matters of equipment and stores. The Committee left these to my discretion, and the valuable advice of members of previous expeditions was always at my disposal. The room at the Royal Geographical Society's House, kindly set aside for us by Mr. A. R. Hinks, became a hive of industry wherein laboured Scott and our stenographer and typist, Mrs. Wade. These two were to do most of the work and to have none of the fun.

The Mount Everest Committee had still at its disposal the sum of nearly £5,000. The coming expedition might, it was thought, cost between £11,000 and £13,000; perhaps a little more than the expedition of 1924 for the reason that, this time, it might be found advisable to stay on in Tibet during the monsoon season should the first attempt fail. To this end a larger party would be required, possessed of sufficient reserves. A happy augury was the receipt of a generous gift of £100 from His Majesty the King, accompanied by a gracious message of encouragement and goodwill. The balance of the sum required had to be raised by the previous sale of newspaper articles, and of a book to be written after the return of the expedition. These matters were left in the hands of a sub-committee which, with the assistance of Messrs. Christy and Moore, literary agents, eventually came to terms with the Daily Telegraph for the newspaper articles and with Messrs. Hodder and Stoughton for the book. In addition, many firms generously undertook to supply equipment and stores free, or at reduced prices.

An expedition which expects to be away from its base in a country like Tibet for six months or more has an infinity of
ATTACK ON EVEREST

needs. The lists made in 1924 were fortunately at hand; it was hoped to improve upon them in some respects. For instance, the hardships endured by the 1924 party at Camp III, when blizzards actually drove them out, might be avoided, or at least mitigated, could an improved pattern of tent be devised. After much thought, discussion and bad drawing, a wonderful pattern was devised, a combination of Tartar "yurt" and Watkins's arctic tent. Messrs. Camp and Sports, who made the latter, entered upon the plan with zest, and the result was a double-skinned octagonal tent of Jacqua material, looking, as Greene remarked, like a plum-pudding without the sprig of holly. It had eight curved struts, jointed in the middle to make easy porterage, a sewn-in ground-sheet, which was supplemented later by a separate ground-sheet made by the Hurricane Smock Company, lace-up doors, two mica windows, and a ventilating cowl which could be turned in any direction according to the wind. In addition to guy-ropes there was an outer flap which could be weighted down with snow or stones. The tent accommodated six men in reasonable comfort at night. Many more could squeeze in for the day. The inventors of this contraption are justly proud of their effort, for our three arctic tents were one of the real successes of the expedition. But for them, we should undoubtedly, like our predecessors, have been driven out of Camp III when the blizzards raged across the East Rongbuk glacier, blowing fine snow into, and even through, the Meade tents. For the porters' use, in addition to Meades, a good bell-tent was made by the Muir Mills of Cawnpore. I took three of these, calculating that they would hold fourteen men each. But the Sherpa likes company and warmth and despises ventilation. More than once I have counted twenty-one men in a single bell-tent, lying head to tail like so many sar-
dines and supremely happy in an atmosphere which defies analysis.

For the mess, much the same pattern of tent as that used in 1924 was provided by Messrs. Silver and Edgington, together with its complement of folding three-ply wooden tables and folding chairs. It accommodated sixteen men and never once blew down, though offering considerable resistance to the wind. An improvement was a small ante-room in which the porter mess-servants could carry on their duties out of the wind.

The same firm again provided the high-altitude Meade tents of aero-wing canvas. This material, though light and strong enough for most mountaineering work, cannot provide full protection against the winds and driving snow of Mount Everest, and I think that a stouter, though inevitably heavier, material should be substituted another time. These tents weighed, some fifteen pounds, some ten.

A modified Meade tent designed by Mr. Burns of Manchester was also tried. Special care was taken over its ventilation, for at high altitudes headaches are the common result of stuffiness. We had three of these tents, and one of them was pitched eventually at our highest camp and stood up manfully.

Longland brought three very light tents of a pattern designed by a climbing friend, Mr. Marco Pallis, for use in emergencies, such as a breakdown of porters. Should all else fail, climbers might be able to carry them.

The question of high-altitude boots required close study. Few of the men who have gone high on Mount Everest have escaped frost-bite on their toes or on the soles of their feet. The matter was enthusiastically taken up by Mr. Lawrie of Burnley, himself a climber. He devised a boot having a sole of two thicknesses of stout leather, with an intervening layer of asbestos sheeting. The boot-nails were driven only through
the lower leather and then turned over, being thus insulated from the leather above. Round the whole interior of the boot was sewn a thickness of felt, and the toes were "blocked." Special clinker nails were used, placed at wide intervals to ensure lightness. Mr. Lawrie was nothing if not thorough, and he did much of the work, including the nailing, with his own hands. He also provided a very stout, somewhat heavier, boot intended for porters on high climbs. The success of this may be deduced from the competition for them which raged among our men. They were a strong inducement to work, and one suspects that more than one porter, toiling up the long slope to Camp V with an air of conscious rectitude, was in reality calculating the chances of his being permitted to retain in private life the issue which happened on that particular day to adorn his feet.

For the march across Tibet and for glacier work as far as Camp III, a few pairs of special boots were given by Messrs. John Marlow and Son of Northampton; the rest were obtained through Messrs. F. P. Baker and Company.

Mr. Carter of South Molton Street also made some very good boots for various members of the party.

Finally, something was needed for wear in camp in the bitter cold of evening. I sent a rough design to Messrs. Clarke, Son and Morland of Glastonbury, who turned out a boot of which the uppers, made of sheepskin with the wool side inwards, reached to the knee, while the soles of "Darex" were well insulated. We found these boots a great comfort, though one would hardly care to go to a dance in them.

From boots to goggles seems a far cry, but the latter were just as important in their way. Snow-blindness is a most painful complaint, and the wearing of goggles was always insisted upon above Camp II, and encouraged above Camp I. Men of
science do love to experiment upon the hapless traveller. It was soon evident that an Everest expedition was just the chance for a benevolent conspiracy between Dr. T. Magor Cardell and Mr. Hamblin of Wigmore Street. Between them they produced an orange-tinted glass, the curious property of which was that, though one could see through it from one side, the other had the appearance of a mirror. The effect apparently was to discourage the most penetrating of ultra-violet rays. By careful shaping both of this and of a plainer model, a good field of view was secured—an important advantage for the mountaineer when climbing steep rock or cutting steps in ice.

Messrs. Melson Wingate of Wimpole Street also made, and presented to the expedition, an excellent goggle let into a mask which effectively protected the nose and cheeks from the wind.

Ice-axes and crampons—those arrangements of spikes which when tied to a boot enable you to walk on fairly steep ice without the trouble of cutting steps—are not made in England. Crawford volunteered to go over to Austria and buy them from Messrs. Horeschowsky and other firms. The porters must be as well fitted out in this respect as the climbers. But the latter already had their own axes, as important to them as his bat to a cricketer.

High-altitude sleeping-bags, obtained from Mr. Burns of Manchester and from Messrs. Silver and Edgington, were an important item. The best consisted of two separate quilted bags filled with eiderdown, one fitting into the other, with an outer jaconet bag over the whole. In addition, Messrs. Jaeger kindly presented fourteen sleeping-sacks of their own design; and Sir George Lowndes invented a wonderful bag which would enable three men, in case of a breakdown of porters, to sleep out on the mountain-side without the protection of tents.

Much inventive genius was expended upon windproof cloth-
ing. One has yet to find the man brave enough to appear publicly in England in this dress, but of its utilitarian value, indeed of its necessity, there can be no question; for the winds of Mount Everest pass through woollen tweeds as if they did not exist. Two designs were evolved, one of Jacqua material made up by Mr. Flint of Avery Row, the other of “Grenfell cloth” provided and made up by Messrs. Baxter, Woodhouse and Taylor of Manchester. Windproof helmets of the same material were so made that they could be pulled over woollen “balaclavas,” protecting the ears and much of the face. Both materials served their purpose admirably.

Messrs. Silver and Edgington made good windproof overalls of a very light canvas for the porters.

It has long been known that two layers of thin woollen material are warmer than one layer of thick. This was remembered in buying underclothing and Shetland pullovers, stockings and socks, and so forth.

Suitable gloves are difficult to design. The hands must be kept warm while retaining a fairly sensitive hold on the ice-axe. Otherwise accurate step-cutting becomes impossible. Perhaps the best combination is a pair of thin silk fingerless mitts covered by woollen mitts and, over all, easy-fitting sheepskin gloves.

General Bruce has introduced in England what is incomparably the best puttee for mountaineers. It is made in Kashmir and consists of a long strip of loosely woven and therefore elastic woollen material. It is warm, and it never constricts the leg. Constriction of any part of the body tends to interfere with circulation and to promote frost-bite.

The expedition of 1924 took out a light bridge ladder made by the McGruer Hollow Spar Company of Gosport. There was always the possibility that an impassable crevasse might be
found among the ice of the North Col. We followed this precedent, but in fact the ladder was never needed, in 1924 or in 1933. This was rather a pity, for it was a most ingenious contrivance, having many of the properties of a suspension bridge. Parts of it were used at Camp I, when the glacier torrent became an obstacle to any but a long-jump champion, and the whole was a source of speculation to our Tibetan friends—one of many puzzles, for we ourselves, to say nothing of our kit, were a problem sufficient for them.

The same firm produced some hollow wooden pitons or stakes, used for fixing ropes on the slopes of the North Col for the safety of laden porters.

At one point on these slopes, in 1924, it was found necessary to use a rope ladder 120 feet long. As none had been brought, the native genius of Odell and Irvine evolved a magnificent affair made from climbing rope and tent pegs. Unsure of our capacity to reproduce this masterpiece, I consulted those experts in the art of "pot-holing," the Yorkshire Ramblers' Club, who most kindly made and presented a beautiful set of three light but strong rope ladders, each sixty feet long. One of them was in constant and effective use on the ice wall which confronted us in 1933.

About 2,000 feet of Alpine Club rope and light line were ordered from Messrs. Beale of Shaftesbury Avenue, and a further 2,000 feet of rope from Messrs. Jones of Liverpool. This sounds a lot, but many separate climbing and working parties had to be provided for, and in the event we found it necessary to secure fixed ropes on at least 1,000 feet of the North Col slopes. There was no knowing when these ropes would require renewal.

The oxygen problem is still with us. In 1922 Finch was convinced that oxygen greatly increased climbing power at high
ATTACK ON EVEREST

altitudes. In 1924 Odell, after several days spent at the North Col, found that oxygen did him very little good in the ascent to 27,000 feet, and that on the whole he climbed better without it. Norton and Somervell dispensed with it altogether, and Mallory and Irvine, who took up the apparatus for their last effort, never returned to describe its effects.

Physiologists, I believe, do not now assert that men cannot reach the summit of Mount Everest without carrying oxygen, though I received by post one or two warnings, almost peremptory in tone, of the dangers that might attend such an ascent. After all, the question was still open. Nothing should be omitted which might contribute to success, and lives must not be played with. We decided to carry oxygen, without using it, as far as the North Col, where it would be available as a last resort in case acclimatisation alone proved insufficient.

Greene, who was fully occupied with his practice in Oxford and with ordering medical equipment and stores for the expedition, nevertheless set stoutly to work, in consultation with his fellow-members of the British Association Committee of Oxygen Supply and with Messrs. Siebe, Gorman and Company. The result has been described in technical detail elsewhere; here it is sufficient to say that a highly efficient apparatus was produced weighing only 12\(\frac{3}{4}\) lbs. This was a great improvement on the cumbersome contrivance which weighed down the backs of unhappy climbers in 1922 and 1924.

Sir Robert Davis generously presented a set of oxygen cylinders, only asking that we should bring them back if possible.

Flow-meters were dispensed with, in order to cut down weight, but it was desirable that a climber should know if his apparatus was working properly. A whistle was installed, which acted as soon as the oxygen began to pass through the valve. The outfit was now complete.
PREPARATION

In the past, two things had lowered efficiency at high altitudes: loss of body heat, due to rapid breathing, and a form of sore throat, considered to be due to the very cold and dry air affecting the delicate membranes of the larynx. Mr. Bryan Matthews of Cambridge came to the rescue with a clever device in the shape of a mask fitting over the nostrils and mouth. It contained several layers of fine copper gauze. The idea was that exhaled breath would warm the gauze; inhaled air in its turn would pass through and be warmed and moistened in its passage to the nostrils and throat. Thus the dual purpose would be served of retaining body heat and preventing a cold and dry air from impinging on the throat. The Physiological Department of Cambridge University very kindly presented a number of these outfits.

Other scientific equipment was restricted to a few aneroid barometers, maximum and minimum thermometers, a small astronomical and a marine telescope.

A great deal of attention was paid to food supplies, and here precedent was, to a large extent, our guide. For it seemed that there was little to complain of in 1924, except that almost any kind of food was unpalatable at Camp IV on the North Col, and nauseating above that. Climbers were obliged to force themselves to eat, and frequent were the references to the recurrent hatefulfulness of this proceeding. There need be no particular difficulty, of course, about rations for use on the march or in the lower camps; but if food could only be taken as a duty high up, and therefore presumably in small quantities, we should at least take expert advice on vitamin and calory content. The human machine must be kept going somehow. Accordingly Dr. Zilva of the Lister Institute was consulted, and he generously devoted much of his time to our problem. A high-altitude ration was put together, combining
the required vitamins and calories with the greatest possible palatability. Carbohydrates, of course, predominated in this diet. There was a liberal provision of Truda’s toffee, Kendal mint, maple sugar, tinned and preserved fruits, jams, tinned café au lait, Ovaltine, cocoa, Bourn-vita, Messrs. Huntley and Palmer’s biscuits and Brand’s essences. Dr. Zilva pressed us to include pemmican, a fatty substance, prepared by Messrs. Bovril; but many members of the expedition, though by no means all, professed an inability to cope with so rich a food, and though you may lead a horse to the water you cannot make it drink. The pemmican was allotted to the porters, whose high-altitude ration was thereby pronounced to be better than ours.

In the event all our preconceived notions went by the board, probably as a result of acclimatisation. The painful spectacle was observed of climbers, who should have been languidly complaining of loss of appetite, in fact riotously demanding the commons of an ordinary robust Englishman at the altitude of London. This state of things prevailed even at Camp V, at 25,700 feet. It was only at Camp VI, at 27,400 feet, that a serious change occurred.

There is some evidence to support a theory that high-altitude deterioration is due, not only to oxygen-lack, unsuitable food, loss of appetite, sleeplessness, cold, fatigue and general discomfort, but also to incipient scurvy. Fresh vegetables can only be secured with great difficulty in Tibet, fresh fruit is unknown. On Dr. Zilva’s advice we had a very highly concentrated lemon-juice prepared by Messrs. Lyons.

Rations were calculated according to probable requirements on the march to and from the Base Camp; on the East Rongbuk glacier; and at the higher camps. They were arranged beforehand for so many man-days, care being taken that there should be variety. The nucleus of each day’s food was a basic ration
PREPARATION

containing all necessary vitamins and calories. This would be supplemented by "Christmas boxes," many of them containing special delicacies obtained largely from Messrs. Fortnum and Mason, from which members could select according to taste, and, whenever possible, by fresh meat, eggs and vegetables.

Fuel is a difficult problem in Tibet. On that high windswept plateau trees are few and far between and are usually protected by religious taboo. The fuel in most common use is yak dung, and to light it and keep it burning call for both ingenuity and patience. The first sound that greets one's waking moments in camp is usually the roar of the clumsy bellows used by the men. The smoke of this fuel is pungent and adds an indescribable flavour to food and tea. Yak dung and uncertain supplies of wood and scrub would serve our needs up to, and including, Camp II, at 19,800 feet. Above that, kerosene and the solidified spirit known as Meta would come into play. The Meta Company very kindly presented 1 cwt. of their product. The combustion of kerosene in Primus stoves at high altitudes has in the past been attended with considerable difficulty, and it was found that a mixture of paraffin and petrol gave the best results up to 23,000 feet. Above that, Meta alone was used. In 1933 we found that a good-grade kerosene, burnt in a Primus stove with a silent burner, gave admirable service up to 25,700 feet. Meta could be used as before, and also "Tommy" cookers. A misplaced timidity regarding weight caused me to omit pressure cookers, which might well have been used, at least as far as the North Col.

We were well supplied with nests of aluminum cooking vessels, for both climbers and porters, presented by Messrs. N. C. Joseph of Stratford-on-Avon.

The expeditions of 1922 and 1924 secured a good cinematographic record, due to the energy of Captain Noel. It was
decided to dispense with this in 1933, but Wyn Harris, Shebbeare and I took 16-mm. cinema cameras. Almost everyone carried a camera for still photography. Cinema film, film-packs and roll films were presented by Kodak Limited, and panchromatic plates and cinema film by Messrs. Ilford.

Longland went to considerable trouble to see that the expedition was well equipped with a travelling library, the books of which should generally have more than a passing interest.

The principal innovation of 1933 was the provision of wireless equipment. The expedition could not afford anything of the kind, but Mr. D. S. Richards, Honorary Secretary of the Joint Committee of the Incorporated Radio Society of Great Britain and the Wireless League, undertook to finance and work it independently, with the co-operation of the military authorities in India. Provision was to be made for wireless transmitting and receiving stations at Darjeeling, the Base Camp and Camp III, and it was expected that by this means the expedition would receive regular weather reports from the meteorological station at Alipore, enabling it to regulate tactics in accordance with the movements of the monsoon. In addition much valuable knowledge would be acquired by wireless engineers as to the possibility of exchanging messages across the ranges of the Himalaya. Mr. Richards even provided us with a light field telephone, which greatly facilitated communication between Camp III and the North Col. For signalling above the North Col we took Very lights, and later on Boustead worked out a separate code which could be worked by means of rucksacks placed against a background of snow. Electric torches and a very light form of “button” torch were also obtained from the Ever Ready Company.

Inventors were much stimulated by the preparations. One
gentleman offered to lay a system of gas piping up the mountain for the delivery of oxygen at the high camps. Another had strong views on windlasses. A third produced a magnificent man-raising kite, inscribed with the legend “Buy New Zealand butter,” which nothing but sheer mountaineering conservatism prevented us from taking.

The packing arrangements were in the hands of the Army and Navy Co-operative Society, under the personal supervision of Mr. E. Little, who devoted a large proportion of his time to this work. All provisions were packed in Venesta three-ply wooden boxes, each with padlock and key. Each box intended for the march or for the glacier camps was to weigh about 40 lbs. when full, and those for the North Col about 30 lbs. Thus there would be no delay in apportioning loads to porters or pack animals. Light tubular-steel carrying frames, designed by Messrs. Camp and Sports, were taken out for the use of the porters. Each box had a number and colour stripes to facilitate identification. Unfortunately colours have a tendency, when exposed to wind, rain and snow, to fade or run into one another.

Time slipped by quickly in these and other activities, and by Christmas 1932 most of the stores and equipment were on board ship en route for Calcutta. Meanwhile the problem of campaign was under discussion. Norton had long ago laid down that it was a great advantage to work this out, in its main features, before leaving England. Improvisation is not easy, or desirable, during the march across Tibet.

A study of the climbing experiences in the previous two expeditions suggested that the keynote of our strategy in the coming campaign should be a slow acclimatisation. To ensure this, yet come to grips with the mountain before the arrival of
Shekar Dzong is a town of white houses at the foot of a rocky pinnacle. High above it are the gleaming walls of two great monasteries, perched on steep ledges. On the summit, a thousand feet above the plain, a look-out post has been built.
The head lama of the Rongbuk monastery is a man of great influence and reputation. The monastery over which he presides stands well over sixteen thousand feet and is occupied summer and winter by more than three hundred monks.

At Tatsang there is a nunnery maintained by the offerings of yak drivers. The nuns were very much interested in the members of the expedition and were glad to be photographed.
the monsoon, an earlier start was clearly required. We should have to overcome the difficulties of securing Tibetan transport in the early spring, and be prepared to face the rigours of that season on the plateau. Shebbeare, whose headquarters were at Darjeeling, was asked to explore these possibilities, and also to send recruiters to Sola Khombu, the home of the Sherpas, so that there should be no delay in obtaining a body of porters.

When I speak of the keynote of our strategy being a slow acclimatisation, I do not mean that progress throughout the operations on the mountain was to be slow. I mean that the march across Tibet and the work of establishing the camps on the East Rongbuk glacier and the North Col were to be conducted at such moderate speed as would allow the maximum possible number of climbers to reach an attacking position unstrained and at the very top of their form. The quick acclimatisers, it was thought, would be none the worse for a comparatively slow advance as far as 23,000 feet; the others would require it. But once we were firmly established on the North Col, the advance must be speeded up for two reasons: firstly, having as far as possible timed our arrival to coincide with the most likely period of fine weather, we must profit by any such spell, inevitably short, to establish the higher camps and go for the summit; secondly, experience showed that deterioration rapidly sets in above 23,000 feet. It was hoped that carefully acclimatised men might be able to keep this deterioration at bay for a longer period, but this would have a bearing rather on the number of attacks to be made than on the speed of any one ascent.

Our tactics, therefore, were designed to allow of a rapid series of “hammer blows” within a short time. Two questions at once asserted themselves:
1. Should more than two camps be established above the North Col, which is about 6,000 feet from the summit?

2. Should the climbing parties consist of two or of three men?

The first of these questions would depend for its answer upon the number and capacity of porters available, upon the existence of adequate ledges high up on the north face, upon the condition of the parties, and upon the weather. It could not be decided a priori. There was general agreement that the Camp VI of 1924, at 26,800 feet, was too low to allow of a fair chance at the summit. A party starting from there would have to climb over 2,200 feet, besides traversing a horizontal distance of nearly a mile.

The answer to the second question would also wait upon events. The right composition of climbing parties would be dictated by individual rate of acclimatisation, temperament and climbing speed, and by ability to get the best out of the porters, all matters for observation on the spot.

Still, tentative plans could be drawn up, with the proviso that they were sufficiently elastic to allow of modification and of improvisation when necessary. Crawford, Smythe, Longland and I set to work independently and produced schemes which disclosed a remarkable similarity of opinion. Longland's was the most detailed and formed the basis of many of our subsequent discussions. We were all impressed by the very long carries necessitated by any plan which arranged for only two camps above the North Col, yet insisted on Camp VI being placed much nearer the summit than it was in 1924. We postulated, therefore, a Camp VII not far from the second step, at a height of nearly 28,000 feet.

Again, three of the plans allowed for parties of two men.
But Smythe preferred parties of three, at least as far as Camp VII, on the ground that there should be a "transport officer" to look after the porters and bring them down safely.

We all considered that the party intended for the first assault should be spared the fatigue of establishing Camp V, and attached great importance to a complete system of supports up the mountain. The first assault would be delivered after five days' work above the North Col. It could be followed by two more in the course of the next three days, provided the weather held. In short, an immense concentration of effort in a period of nine days might bring the campaign to a successful close. The period could be extended if necessary. Details of camps and porterage were worked out, permitting of four tents at Camp V, two at Camp VI, and one at Camp VII.

Clearly it was advisable to invite Norton to examine these plans, for he, more than any man, was qualified to do so. He did better than just examine; he put up a most valuable plan which embodied constructive criticism of our own. Its salient features were these:

1. Postulating that a party should be able to climb at least 1,300 feet on the last day, the highest camp should be at 27,700 feet, i.e., at least 900 feet higher than in 1924.

2. This might be done—

   (a) By making an average ascent of 450 feet more than was done in 1924, on each of the first two days above the North Col; or

   (b) By adding a third camp and a third day's climbing above the North Col.

3. The first of the above alternatives is recommended, because—
(i) It is exceedingly doubtful if porters will consent to start on a third morning (i.e. from Camp VI), to make a Camp VII, whereas they are perfectly capable of carrying an extra 450 feet on each of two days;

(ii) The climbers themselves will deteriorate more by spending an extra day and night above the North Col than they will by doing an extra 450 feet each day;

(iii) The number of loads to be carried above the North Col is smaller;

(iv) Every day spent above the North Col adds to the risk of encountering a storm.

4. The advantages of the second alternative are that it admits of more scope for the selection of a suitable site for the highest camp nearer the summit, and provides time for the construction of a satisfactory camp site.

5. Parties of three are safer and preferable to parties of two, except that the latter move quicker, and this decreases the danger of being benighted. It would seem best, if sufficient numbers are available, to start from the North Col with parties of three; one member can be regarded as a reserve and employed, if necessary, to escort returning sick porters or to remain in one of the high camps as a supporter.

6. The first attempt should be made as early as possible, the party establishing Camp V at 25,700 feet (4 tents), and Camp VI at 27,700 feet (2 tents), and then going for the top. If they cannot reach the top, they should at any rate reconnoitre the route on to the final pyramid.
7. If the first attempt fails to establish Camp VI high enough or fails to reach the top, the three-camp principle can be tried, a new Camp VI being placed somewhere short of 27,700 feet and a Camp VII pushed up as high as possible.

8. High camps should not be established by parties sent up for this purpose alone. This is uneconomical in climbers and porters.

9. Parties which have been very high should do their utmost to return direct to the North Col.

10. Everything depends on establishing personal influence over the porters.

Norton's advice laid emphasis on the need for rapidity of action above the North Col, for a somewhat quicker advance than we contemplated. He was quite right.

Shortly before sailing, those of the party who were in England assembled at the Royal Geographical Society's House, where Norton and Longstaff gave us a few words of encouragement. At last everything was ready. Our passages had been arranged with generous assistance from the Peninsular and Oriental Steamship Company. On January 20th a cheerful company, resolutely optimistic, came to see us off from Liverpool Street. The Mount Everest Committee and relatives and friends loyally endeavoured to distract the attention of the pressmen what time we tried to creep into our carriages unobserved, or at least looking as much as possible like invalids on their way to a Continental cure. But it was no good. We were compelled to face the music, to be photographed, to "say something" extemporaneously. Crawford was presented with what looked remarkably like a bookie's umbrella to protect him from the inclemen-
cies of Tibet. We had not nearly time enough to return thanks for innumerable kindnesses before the train began to move. At Tilbury the indefatigable Press was ready for us again, this time with "movietone" recorder. A few last farewells; then came the call "All friends ashore," and the mail-ship Comorin steamed slowly out into the fog of the river.

SPECIMEN HIGH-ALTITUDE RATIONS PREPARED IN 1933

I. A climber's ration for one day at Camp IV and above:

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand's essence</td>
<td>11/2 oz.</td>
</tr>
<tr>
<td>Heinz' beans</td>
<td>21/2 &quot;</td>
</tr>
<tr>
<td>Sardines</td>
<td>2 &quot;</td>
</tr>
<tr>
<td>Biscuits</td>
<td>1 &quot;</td>
</tr>
<tr>
<td>Nestlé's milk</td>
<td>8 &quot;</td>
</tr>
<tr>
<td>Ovaltine</td>
<td>2 &quot;</td>
</tr>
<tr>
<td>Café au lait</td>
<td>1 &quot;</td>
</tr>
<tr>
<td>Barley sugar</td>
<td>1 &quot;</td>
</tr>
<tr>
<td>Horlick's malt tablets</td>
<td>1 &quot;</td>
</tr>
<tr>
<td>Fruit drops</td>
<td>1 &quot;</td>
</tr>
<tr>
<td>Kendal mint</td>
<td>2 &quot;</td>
</tr>
<tr>
<td>Jam or honey</td>
<td>4 &quot;</td>
</tr>
<tr>
<td>Ginger</td>
<td>1 &quot;</td>
</tr>
<tr>
<td>Butter</td>
<td>1 &quot;</td>
</tr>
</tbody>
</table>

29 oz.

In addition, a small ration of tea and rum; and selection could be made according to taste from a "Christmas box" containing pemmican, dried and crystallised fruits, sugar and various kinds of confectionery.
II. A porter’s ration for one day at Camp IV and above:

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pemmican</td>
<td>2 oz.</td>
</tr>
<tr>
<td>Tsampa or pea-flour</td>
<td>2 &quot;</td>
</tr>
<tr>
<td>Jam</td>
<td>4 &quot;</td>
</tr>
<tr>
<td>Meat (tinned)</td>
<td>4 &quot;</td>
</tr>
<tr>
<td>Sweets, assorted</td>
<td>2 &quot;</td>
</tr>
<tr>
<td>Biscuit</td>
<td>4 &quot;</td>
</tr>
<tr>
<td>Chocolate</td>
<td>2 &quot;</td>
</tr>
<tr>
<td>Ovaltine</td>
<td>2 &quot;</td>
</tr>
<tr>
<td>Nestlé’s milk</td>
<td>6 &quot;</td>
</tr>
<tr>
<td>Butter</td>
<td>2 &quot;</td>
</tr>
</tbody>
</table>

30 oz.

In addition, a small ration of tea and sugar.
A voyage to India is very much what you choose to make it. Even during the busy months of preparation at home most of us had endeavoured to maintain some small degree of training, and now with three weeks of sea-travel ahead we felt that we must not spend all that time sitting about in deck-chairs. We walked round the ship, skipped, played deck-tennis, and elaborated an appalling form of football in which a quoit took the place of a ball. Then the ship's carpenter made us a "medicine ball." This, when thrown backwards and forwards over a rope stretched six feet above the deck provides as much exercise as a reasonable man requires, and the battles waged between Wyn Harris and Longland, for instance, would not have been considered altogether dull in a Roman amphitheatre.

Opportunities of stretching the legs ashore were not neglected. The old Rock at Gibraltar offered a climbing problem or two. I had gone down with influenza, but the others were hospitably entertained at Government House and encouraged to explore. Then a midnight visit to the Tanks at Aden under a full moon led to some remarkable scrambling on the smooth, steep volcanic rock. The party was indeed active enough, yet I think that our friendly and interested fellow-voyagers regarded
us with some misgivings. They expected of aspirants to Mount Everest a physique approximating perhaps to that of Signor Carnera, or at least to that of the old Greek athletes. As a whole, we were too lightly-built to stand the buffetings of wild Nature or climb a great mountain. They said so in the nicest possible way, and we agreed with them and deplored our lack of symmetry.

Our quieter moments were spent in the discussion of the climbing plans, of stores and equipment. I remember that on January 25th, off the east coast of Spain, Crawford, Shipton, Longland and I had a long debate, and a detailed plan was drafted which remained our guide till events on the mountain brought us back much nearer to Norton's advice. At this time we assumed that the first part of the assault could be carried through with eight of the fittest climbers and twenty porters, based on the North Col. This would leave reserves for the second part, if necessary. The plan was as follows:

I. Preliminary. As soon as possible after the establishment of Camp IV close to the North Col, a party, G H with 10 porters, makes Camp V at between 25,500 and 25,750 feet, putting up 3 tents. All return to IV the same day.

II. The Assault. When a period of not less than 5 days has been spent in acclimatising at IV:

*Day 1.* A B, with 6 porters, go up to V and sleep there.

*Day 2.* A B, with 6 porters, establish VI (2 tents) somewhere between 27,200 and 27,700 feet. The porters are at once sent down to IV, and A B sleep at VI.

C D, with 4 porters, come up to V and sleep there.

*Day 3.* A B reconnoitre the north-east arête and attempt the second step, continuing to the summit if they can. If they fail to climb the second step, they look out for
a site for a Camp VII near it, and then descend to V or IV.

C D, with 4 porters, come up to VI and at once send back 2 porters to IV, remaining themselves at VI with 2 porters for the night.

Day 4. C D, with 2 porters, establish Camp VII (1 tent) somewhere about 28,000 feet, near the second step. They send the 2 porters down to V or IV, and themselves sleep at VII.

E F, with 2 porters, come up to V.

Day 5. C D try for the summit, and descend to V or IV.

E F, with 2 porters, come up to VI, sending porters back to IV.

G H, with 2 porters, sleep at V.

Day 6. E F come up to VII, sleeping there.

G H come up to VI, sending their 2 porters back to IV. A B sleep at V.

Day 7. E F try for the summit and descend to VI, V or IV.

G H sleep at VII.

A B sleep at VI.

Day 8. G H try for the summit, A B acting in support as necessary.

It will be seen that this plan permitted of four attempts on the summit in a period of eight days which did not need to be consecutive: in calculating the loads, allowance had been made for delays due to bad weather. I do not think that even the most optimistic expected a smooth realisation of the project, but some excess of confidence may be forgiven men who had not yet themselves experienced the difficulty of storming the last defences of Everest.
Some hours a day were devoted to the study of Nepali, the language in which we hoped to address our porters. Crawford was instructor, having served during the War in a Gurkha regiment. There never was a less formal pedagogue, but he has the gift of tongues and can convey them to others.

At Bombay every assistance was rendered by the authorities and by Mr. C. E. Boreham, manager of the Army and Navy Stores; so there was no delay over the disposal of baggage, and we were able to leave the same evening. I had developed a theory that men who were about to face great and prolonged strain might be helped by a spiritual as well as physical introduction to the East. I took some of the party via Agra and showed them the glories of the Taj Mahal, the Fort, and Fatehpur Sikri, places where I had often during my service found inspiration and a great encouragement. I venture to think that the little pilgrimage was not without a certain value.

At Calcutta we received much kind hospitality, and Wyn Harris and I had the privilege of meeting the Governor of Bengal, Sir John Anderson, who throughout showed the greatest interest in our doings. The expedition's equipment and stores had been sent round by sea. Mr. K. A. Hamilton of the Army and Navy Stores, to whom our thanks are due for work quickly and efficiently done, cleared them through the Customs (the Government of India generously allowed entry free of duty) and forwarded them by rail and ropeway to Kalimpong. The Darjeeling-Himalayan Railway most kindly granted concession rates and travelling passes.

The expedition owes a debt of gratitude to Dr. C. W. B. Normand, Director-General of Observatories, who made special and most efficient arrangements for the observation of weather, with special reference to our needs. Dr. Normand's headquarters are at Poona, but after hearing from him Wager
and I called upon Dr. S. N. Sen, the Meteorologist at the Ali-
pore Observatory, who kindly undertook to send us through
the wireless a regular series of weather reports, and asked us
to do the same for him from the Base Camp. Dr. Sen, with
some diffidence, volunteered the prophecy that we should en-
counter western disturbances and an early monsoon. His forecast
proved to be only too accurate.

Then everyone except me hurried up to Darjeeling. I turned
aside at Jalpaiguri to meet my old friends, the 1/3rd Queen
Alexandra's Own Gurkha Rifles, who were desperately keen
to supply us with three N.C.O.s for the guarding of treasure
and the management of camps. Lieutenant-Colonel A. G. Stone,
their Commanding Officer, had already selected three of his
very best men, and for some time past they had been in full
training at the Gurkha Depot in Darjeeling.

I travelled on to Siliguri to meet Shebbeare and was taken
out for the night to the forest bungalow at Sukna, at the very
foot of the hills. Here, in primeval forest which seemed utterly
remote from our quest, the expedition's transport was ex-
hhaustively discussed. It was essential that we two should speed-
ily make terms with the mule contractors; so next morning we
skirted the hills on which Darjeeling stands, and were driven
up the long ascent to Kalimpong and the lovely house of Mr.
and Mrs. Odling, whose hospitality and very practical help we
can never forget. Mr. Odling controls the ropeway by which
goods are brought up from rail-head. He arranged for the
reception and temporary storage of our equipment, helped in
our conferences with Pangda Tsang, the Tibetan Government
Trader, and forwarded our interests in every conceivable way,
though we must have been a grievous disturbance to his own
work. Meanwhile Mrs. Odling arranged for a bungalow in
which the expedition could stay during the last days of prepa-
ration for the march, and took endless trouble to furnish and staff it. Yet we seemed to spend much of our time overflowing into her own house. Crawford and Longland, thinking I was lost or dead, came over from Darjeeling and dragged me away for the urgent business of recruitment. That and other matters settled, we should return to Kalimpong and make our real start from there.

Darjeeling, where Smythe joined us on February 27th and Greene and Birnie on March 1st, extended the heartiest of welcomes. Everybody was out to help, and we plunged without delay into the selection of porters, on which so much must depend. It was fortunate that word had already been sent out, for men are not easily collected so early in the year. Nima Dorje and Sanam Topgye, my Sherpa companions in the Kumaun Himalaya in 1932, had gone through the winter snows to Sola Khombu, the great Sherpa settlement at the head of the Dudh Kosi valley in Nepal. This lies at a height of about 13,000 feet, almost on the southern slopes of Mount Everest. The Sherpas, though Nepalese subjects, are of Tibetan origin and speak among themselves a Tibetan dialect. From their earliest years they are accustomed to carry heavy loads over the 19,000-foot Nangpa La, the pass at the head of their valley to the Tibetan plateau. They have thus secured an extraordinary degree of acclimatisation to high altitudes, and a carrying power which has to be seen to be believed. Many of them come into Darjeeling, ten days' march, seeking work in tea plantations, or as porters or rickshaw coolies. They are fine, free movers on a hillside, and have the bold, open manner of the true hillman.

There must be some affinity of temperament between the Mongolian and the English races, for they seem to understand each other at once. For instance, British and Gurkha soldiers
invariably fraternise, though unable to speak one word of each other's language. We lost no time in establishing an entente with the Sherpas. Nor was communication very difficult, for the Sherpa, now a resident of Nepal, has usually learnt the language of that country pari passu with Tibetan. He has picked up some Urdu at Darjeeling, sometimes even a few words of English. He likes languages and, if he has been with the Bavarians to Kangchenjunga, will often reply "ja-ja," regardless of the context. Shebbeare and Crawford knew Nepali; the rest of us had made some little progress on board ship or elsewhere and were not too self-conscious to "try it on the dog," so to speak. In addition, Shebbeare, Crawford, Birnie and I, having served in India, were quite at home in Urdu, of which the members of the Kamet party of 1931 had also acquired some knowledge. So at it we went. As the men poured in to enlist, filling up the level space in front of the Planters' Club to the embarrassment of its long-suffering but amused members, the crowd would often split up into little nebulae, the nucleus of each a hopeful Englishman or two, surrounded by concentric rings of grinning faces. Speech there was, and plenty of it; but what a mixture of Urdu, Nepali, English and indescribable "noises off"!

Yet you can size up a man pretty well, however imperfect your means of communication. Previous experience has shown that the big, muscular man who is capable of great feats of strength, usually of short duration, at moderate altitudes, is apt to fail on the high mountains. He has to carry too much top-hamper in the shape of his own burly person, and an additional load is his undoing. We went out for the wiry, active, clean-bred type, reasonably intelligent and with the indefinable stamp of "quality," as a horse-dealer would say. Instinct is not a bad guide in these matters, and we did not make many mistakes.
Not only Tibetans of the neighbouring regions but natives of Nepal, four marches away, come to the Rongbuk monastery to receive spiritual consolation. The expedition's porters needed the blessing of the lama before they would undertake the ascent of Everest which may be seen in the background.

The meteorologists of the expedition studied the weather conditions with the greatest care. Much of their time was spent watching the clouds in an effort to determine whether the disastrous monsoon would prevent a successful ascent.
F. S. Smythe and E. E. Shipton (left and right) made the second attempt to scale the summit of Everest. They too were driven back, unable to summon the almost superhuman strength which the men who eventually climb the last thousand feet must possess.

Wager and Wyn Harris (left and right) were the first to attempt the final dash to the summit of Everest. After a terrible struggle with wind and snow, they were forced to abandon their attempt about a thousand feet from the summit.
General Bruce, in a hasty visit to Darjeeling, had paved the way; the men knew and trusted him and were in a good frame of mind. Not only Sherpas were taken. A good class of men called Bhutias, Tibetan subjects from the Chumbi valley, enlisted readily. They are splendid load carriers, hardy and amenable to discipline.

It was a great pleasure to find that Lhakpa Chedi, the best of the “tigers” of 1924, was prepared to come again. He had been for some years a very efficient head waiter in a Darjeeling restaurant, and now proposed to join up as sardar and messman. But that humdrum though useful rôle would never content him once the Base Camp was reached. He intended to climb as high as possible, and we realised what an immense asset his prestige and influence would be in regard to the young entry.

As porter sardar we appointed Lewa, veteran of many a hard climb, who carried for me in 1927. Unhappily he lost his toes from frost-bite on Kamet in 1931, but his spirit was as high as ever, and the men liked his hard but humorous personality.

Another sardar was Nursang, a very tough person, with a fine eye to the main chance, but highly efficient. A third was Sanam Topgye, Geoffrey Bruce’s old servant, who sent me during the winter a gaudy picture postcard, asking for the date of arrival and cheerfully stating that he would have all arrangements ready for the expedition.

A few more old hands were also enlisted, among them the steady, faithful Nima Tendrup, who has been on every major expedition in the Himalaya since 1921. I thought regretfully of Chettan, an old “Everester” and my companion in 1926 and 1927. A “hard case,” if ever there was one, but a tre-
mendous worker and a real mountaineer. He was killed by the great avalanche on Kangchenjunga in 1930.

Many of our applicants served in the International and the Bavarian attacks on Kangchenjunga, so knew what they were about, and we could ascertain from their character rolls their several abilities. They would provide a valuable stiffening. The real "old soldier" must be avoided like the plague. Though we did not altogether escape this contagion, the long march across Tibet afforded many opportunities for dealing with it. Another type to be avoided, though often willing enough to do his best, is the man whom some mountaineering accident has caused to lose his nerve. He may seem cured at Darjeeling, but he cannot be trusted, for his trouble may return, and it is infectious.

Our young entry was very promising, and did not belie its promise. A close eye was kept on these newcomers; they were encouraged to bring their troubles to us, for the hillman, though independent in character and much easier led than driven, develops a pathetic reliance on the sahib once he realises that his interest in him is friendly and sympathetic, not merely inquisitive or, worse still, patronising.

Cooks were an important consideration. Most of the porters can do something in this line at a pinch, but we had five men who were really experienced, including two comparative artists in old Tencheddar and the quiet anxious-looking little Chun-Chun, whose whim it was to wear pink pyjamas in and out of season.

For the important post of interpreter, the expedition again secured the services of Karma Paul, who accompanied the expeditions of 1922 and 1924. Karma Paul is a Tibetan by birth, but has lived most of his life in Darjeeling, where he runs a motor business. He speaks almost perfect English, writes it
very well indeed, and is equally at home in the Tibetan, Nepali, Urdu, Bengali, Sikkimese and Lepcha languages. Much importance is attached in Tibet to social and diplomatic etiquette. Karma Paul is thoroughly conversant with the technique of this, and was of the greatest value to the leader and the chief transport officer during the long discussions with Tibetan Dzongpens (district magistrates) regarding transport provision and rates. He revels in work, willingly accepts responsibility, and has a saving common sense allied to an acute sense of humour.

It was necessary to organise a system of postal communications, through which our despatches, telegrams and photographs could be sent rapidly to the Statesman of Calcutta, to be forwarded to the Daily Telegraph in London. This work would be put in the hands of a postal agent who knew Tibet and Sikkim; he must be competent and reliable, with discretion to select the right type of postal runner, or rather rider. Any inefficiency here would result in loss of letters and in leakage of news. Lobsang Tsering, a Tibetan resident in Sikkim, was chosen on the recommendation of Mr. F. Williamson, I.C.S., Political Agent in Sikkim, and of Mr. L. G. Pinnell, I.C.S., Deputy Commissioner of Darjeeling; and there could not have been a happier choice. He organised his postal service well, and kept his accounts with great accuracy. We never had any trouble.

Before the expedition started, it was necessary to have all the porters medically examined. By the kindness of Major S. A. McSwiney, I.M.S., Civil Surgeon of Darjeeling, the men were sent in successive batches into hospital, examined by our own M.O.s and by Dr. Yen Singh, and relieved of harmful organisms. The wisdom of this course was shown by the fact that 34 per cent. were found to be harbouring internal para-
sites. Only one was rejected for heart trouble. It is a remarkable fact that many Tibetan muleteers and the people of the Naga hills farther east are subject to this; yet the Sherpas, who do so much load carrying at high altitudes, are remarkably free from it. We used to visit the men in hospital, where there was much merriment over our attempts to re-identify recruits last seen in their grubby working clothes. Each man had had a bath and was clothed, for the first time in his life, in beautiful blue-and-white striped pyjamas. It was a wonderful transformation, and they were delighted by the admiration of their friends.

One important and very necessary ceremony was kindly arranged for us by Dzaza Sardar Bahadur S.W. Laden La, the friend of many mountaineers. This was the ceremonial blessing of the expedition personnel by the Lamas of the Ghoom Monastery. Sherpas and Bhutias are Buddhists, and set great store by the goodwill of their Lamas. The English members were equally willing to participate; for, as a Pope of Rome once observed to a Protestant Englishman who hesitated to kneel before him, "an old man's blessing never did anyone harm." Accordingly, on March 2nd, the space in front of the Planters' Club saw the unusual spectacle of a group of Lamas arriving in full canonicals—saffron robes and yellow headpieces strongly reminiscent of the helmets worn by Alexander's Greek soldiery—and carrying their dorjes (thunderbolts), bells and incense-sprinklers. The ceremony was conducted with a quiet dignity which no one who was privileged to be present is likely ever to forget. The deep-voiced chanting, the individual blessing of the men and of ourselves, the serious and devout demeanour of those normally light-hearted young porters, the ceremonial of a bygone age, were infinitely moving. At the moment of the invocation of the mountain spirits, the great cloud-rack to the
north parted and the gleaming summit of Kangchenjunga came quietly through. I stole a glance at the long, silent lines. It seemed that the men had had their answer, and were content.

And so to work. The porters were behaving remarkably well; for, although at this time occurred the Tibetan New Year when licence is usually abroad, there were no cases of drunkenness among them. There can be little doubt that these porters, like ourselves, felt a high sense of privilege in being selected to go to Mount Everest. In the Sherpa cosmos this is the blue riband of achievement. Almost to a man, they arranged for advances of pay and allowances to their nearest relatives, and quietly settled their affairs. The pay of an ordinary porter was to be twelve annas a day, with food allowance of eight annas a day during the march across Tibet. After reaching the Base Camp, every man would receive standard rations. Sardars and undersardars were paid at higher rates, as were also our four principal cooks.

Birnie, as a cavalryman, was obviously cut out for the post of Master of the Horse. It had been decided that each European should have a pony, as the acclimatisation scheme provided for easy progress on the way to Everest. Cooks and sardars also were to be mounted. Our recruiting ground now became a horse-fair, wherein Birnie and the old coper Laspati wrangled amicably about prices and performance. Laspati offered some remarkable ponies, all of which had been raced and had mouths of iron. But they were of Tibetan breed. Nothing else could stand the climate, the poor food, or the very amateurish handling of the porter grooms. Prospective purchasers galloped precariously about, while the porters laughed, and no doubt prayed for a spill or two. The saddlery was awful, but might with luck last six months. Stable gear and a supply of horse-shoes completed our equipment.
The military authorities at Delhi were most anxious to help in every possible way. We owe it to the kindness of the Commander-in-Chief in India that, in all, three British officers and two British and three Gurkha non-commissioned officers were seconded for duty in connection with the expedition and the wireless communications.

Mr. Richards brought out a very complete wireless equipment from England and proceeded to Delhi, where he explained his needs to one of our best friends at headquarters, Major-General W. L. O. Twiss, Military Secretary, Army Headquarters, and also Honorary Secretary of the Himalayan Club. It was arranged that two British Signals officers should accompany the expedition to the Base Camp, while two British Signals N.C.O.s helped Mr. Richards with his station at Darjeeling. Sincere acknowledgments are due to Mr. L. W. Ford, an amateur wireless enthusiast of great experience, who freely placed the resources of his own equipment at our disposal.

The generous offer of twenty-four Army mules and twelve Indian Army drivers was gratefully declined by me, as it was advisable to have homogeneous transport.

There was very little time in which to make these preparations, for our transport materialised sooner than was expected, and I was anxious to take advantage of it. The contingent from the Royal Corps of Signals, from Jubbulpore, arrived at Darjeeling on March 6th. It consisted of E. C. Thompson and W. R. Smijth-Windham, and Sergeant N. Watt and Corporal W. J. Frawley. They set to work at once with Mr. Richards to overhaul the wireless equipment, but the machinery needed for the Base Camp had to be loaded up without previous examination. By a great effort, their clothing, boots and stores for the campaign were made ready in time.

Meanwhile I interviewed Colonel Stone's Gurkha N.C.O.s,
ATTACK ON EVEREST

Havildar-Major Gaggan Singh Pun, Havildar Lachman Singh Sahi and Naik Bahadur Gurung. They had been spending strenuous days on the Darjeeling hillsides, and looked hard and fit. All three are well-educated men, with good records in the regiment. Gaggan Singh is very reserved and difficult to gauge at first sight, but he does his duty and improves greatly with acquaintance. Lachman Singh is distantly related to the old royal family of Askot, in the Almora district. He has perfect manners, and great ability and character. He was liked and trusted by the porters as well as by ourselves. Bahadur Gurung is a typical Gurkha, reliable, plucky and enduring. These men rendered yeoman service throughout the march and the operations on the mountain.

The greatest assistance was received from Mr. W. J. Kydd, a resident of Darjeeling, who most kindly volunteered to act as the expedition's agent during our absence in Tibet. He undertook to pay out family allotments, settle all bills and, in fact, relieve us of all the unpleasant humdrum work of an office. Indeed, the expedition had many good friends. Mr. and Mrs. Wrangham-Hardy, in addition to looking after our comfort at the Planters' Club, of which we had kindly been made honorary members, made a most rapid and judicious selection of stores for the wireless officers.

Most Europeans suffer from slight chills and internal troubles on first arrival at a hill-station, and we were no exception to the rule. Darjeeling can be very cold in February, especially after sunset. Again, hill-water seems to contain particles of mica which for a time upset the interior economy of the newcomer. But the party soon recovered its form, and was all the better for a few days spent at an altitude of over 7,000 feet. Our equipment included a water-filter, to which we attribute,
to some extent at least, our immunity from dysentery and other such troubles during the march.

At this time our intention was to proceed to Kampa Dzong in Tibet, where fresh transport would have to be engaged, via Gangtok and the Lachen valley and over the Sebu La, thereby avoiding the Phari route on which transport difficulties occurred both in 1922 and 1924. The former route is undoubtedly the most direct and, in normal circumstances, the easiest way to Kampa Dzong. Unfortunately news came in that the Sebu La was temporarily closed by a heavy fall of snow, and the plan had to be altered. To Gangtok we must go, in order to meet Williamson, the Political Officer in Sikkim, and obtain from him our passport and information about the state of affairs in Tibet. From Gangtok we should have to turn eastwards over the Natu La to the Chumbi valley and Phari.

The dak-bungalows or stage rest-houses of Sikkim have somewhat limited accommodation. We decided, therefore, to march in two parties, the first to consist mainly of those who had not been to the Himalaya before. They would travel on without delay to Gautsa, which lies at a height of about 12,000 feet in the Chumbi valley, and wait for the rest. A few days there would give them some preliminary acclimatisation. From Gautsa we should move on together for the remainder of the march. At Kalimpong, however, we found that Pangda Tsang, the Tibetan Government Trader, whose mules were to carry the heavy baggage to Kampa Dzong, wished to go by the regular trade-route to the Chumbi valley via Sedongchen and the Jelap La. A third party was hastily made up, consisting of Thompson, Smijth-Windham and Karma Paul, who were to accompany the heavy baggage and join the second party at Yatung.

This division into parties necessitated some resorting of our stores at Kalimpong; so Longland and Shipton went over in
advance and laboured strenuously. They were soon followed by the others of the first party, Crawford, Wyn Harris, Wager, Brocklebank and McLean. Shebbeare and Birnie, though they were of the second party, lent a hand. It was here that they bought Phil and Flo, the splendid mules which carried the mess tent. The porters, too, were sent on ahead to Kalimpong.

At last everything that could be done at Darjeeling was complete. Wyn Harris had put in an enormous amount of preliminary work on accounts and porters' rolls. Mr. Kydd had all the necessary data of advances to their dependants and next of kin, and our finances were in the safe keeping of the Imperial Bank of India. On the morning of March 8th many kind friends gave us a parting cheer as the little procession of cars, led by Mr. Laden La, moved off to the eighth milestone whence we would begin, on foot, the long descent to the Tista.
Darjeeling is separated from Kalimpong by the great valley of the Tista river. From a height of over 7,000 feet the road drops in endless zigzags to only 600 feet above sea-level, and then climbs nearly 4,000 feet to Kalimpong. That first march across the Tista valley is a wonderful experience. One passes through so many zones from the pines of Darjeeling to the tropical forests beneath. At Pashok we descended through Mr. Lister’s tea estate, where it is the custom to record on his verandah wall the heights of expedition members. Greene’s many inches now hold the record. Down, endlessly down the deep descent, to the detriment of one’s toes, till at last the Tista bridge came in sight, and the motor-cars waiting to take us up to Kalimpong.

As it happened, the first and second parties left Kalimpong on successive Sundays, and each had the privilege of attending Divine Service at the Kalimpong Homes where Dr. Graham has laboured so long and so successfully. The first party left on March 5th, and made a sensational exit; their ponies took charge and galloped for some distance in the wrong direction.

The second party, consisting of Shebbeare, Greene, Smythe, Birnie and myself, left on March 12th in more sedate fashion, after a pleasant gathering at Dr. Graham’s house. The chil-
dren of the Kalimpong Homes lined the road and gave us a great send-off, and everybody pressed round to wish us success. We have very happy and grateful recollections of Kalimpong.

There is a singular sense of freedom during the march to Pedong. One is really off at last, motor-roads and towns are left behind. None but Mongolian faces are seen among the travellers coming and going. Life will be nomadic for the next five or six months. As if to mark the change, after seven miles of steady ascent past alders and bamboo clumps and white dhatura hedges, we found a market-day in full swing at Algarra. A country market, definitely. Open booths, not the stereotyped shops of a town civilisation. Then we descended the five miles of execrable pavé mule track to Pedong dak-bungalow with its magnificent views over the Rangli-Chu. Here Wood-Johnson and Boustead joined us, the former from his tea garden, the latter post-haste from the distant Sudan. Wood-Johnson was like a schoolboy on holiday, and no wonder. For six long years he had prepared for this day.

Pedong is on the frontier between Sikkim and British India; soon after the start of the next day's march, our passes were closely scrutinised by a stern-looking little Gurkha policeman, and we were off down the steep 3,000 foot descent to the Rangpo river. The mountain ridges of this part of the country run roughly east and west; so the road to Gangtok is a series of enormous switchbacks, most trying for the untrained. Our thirsty troop was glad to find good oranges at the next halting-place, Pakhyong. From here, on the morning of the 14th, we had a wonderful view of Kangchenjunga, amazingly clear through miles of rain-washed air. One more valley had to be crossed, through a long avenue of rubber trees, and then we climbed up to Gangtok, the capital of Sikkim.

There was plenty to do here. Lobsang Tsering received
full instructions for his postal service. His headquarters would be at Gangtok, but he had first to satisfy himself about the road through the Lachen valley and over the Sebu La; he would then join the expedition at Kampa Dzong and accompany it to the Base Camp, thus familiarising himself with the whole route, and making arrangements with the Tibetan Dzong-pens for the accommodation and support of his mail riders. From Gangtok our postal despatches and telegrams would be forwarded to Calcutta. In this the expedition received valuable help from the Post and Telegraph masters.

Williamson is the soul of hospitality, and we spent many happy hours with him at the Residency, admiring everything: his collection of Tibetan religious banners, arms and brass-work; his lovely garden; and the Sikkimese uniforms of his official and domestic staff. Our passport was ready with the official seal of the Tibetan Government.

A translation of it may interest readers:

Be it known to the Dzongpens and headmen of Phari, Kampa, Teng-kye, Shekar and Kharta districts.

In accordance with the request contained in a recent written communication received from F. Williamson Esq., I.C.S., the excellent Political Officer in Sikkim, we have, in view of the excellent friendly relations existing between the British and Tibetan Governments, permitted

Mr. H. Rutledge,
Mr. F. S. Smythe,
Major Hugh Boustead,
Captain E. St. J. Birnie,
Mr. C. G. Crawford,
Mr. P. Wyn Harris,
Mr. J. L. Longland,
Mr. T. A. Brocklebank,
Mr. E. O. Shebbeare,
ATTACK ON EVEREST

Mr. E. E. Shipton,
Dr. C. R. Greene,
Dr. W. McLean,
Mr. G. Wood-Johnson, and
Mr. L. R. Wager,

a total of 14 British Officers, with about 90 servants, to ascend the
snowy mountain of Chamalung, which is in Tibetan territory, in the
first month of the Water-Bird year. The expedition requires about 300
baggage animals. Please supply these immediately on demand without
any let or hindrance, taking hire without sustaining any loss. You
should also render them such help as is possible in the country.

On their part, the Sahibs and their servants must not roam about in
regions not indicated in the passport at their will. They must not shoot
birds or other wild animals at the various sacred places, an act which
has the effect of offending Tibetan susceptibilities. They must not beat
the people or subject them to any trouble. We have addressed a written
communication to this effect to the Political Officer in Sikkim. You are
required to give unfailing and unswerving effect to the foregoing.
Therefore all of you should take responsibility and act unerringly in the
matter.

Despatched on the 27th day of the 12th month of the Water-
Monkey year (21st February, 1933).

Seal of the Ministers of Tibet.

We also had the pleasure of meeting His Highness the
Maharaja of Sikkim, who has shown consistent friendliness to
many expeditions, and of visiting his new gompa (temple) with
its elaborate frescoes and paintings.

There was a good deal of lameness among our porters at
this stage. They had been served out with their new English
boots at Kalimpong, after a startling process which is Sheb-
beare’s own patent. The boots were first thrown into a bath
of water and then anointed with a terrible mixture of yellow
soap and castor oil. This made them beautifully supple. The
only difficulty was that they were of a generous size to permit
of wearing several pairs of socks above the snow-line. They were therefore too loose at present on the men’s feet, and galled them.

With the prospect of long abstinence, or at least shortage, in view, the porters naturally caroused a little in the Gangtok bazar; but there was no rioting, and they turned up for work on the 16th. Our principle was to give them only very light loads on the march to the Base Camp so as to have them fit and untired for the coming strain. They carried our cameras and light kit—enough to give them some sense of responsibility, and keep them out of mischief. It was important to get to know each man individually, and to study his character; by this means only should we be able to pick out the best for the higher camps. So we spent much time trying to distinguish one flat face from another flat face. It is humiliating to find oneself more than once addressing a man by his wrong name; and even when one got it right, there was the difficulty that Pasang, for instance, shared his name with at least five other Pasangs. But they were gently tolerant; besides, they were having far greater difficulty with our own names. They solved this characteristically by observing some individual trait of appearance or disposition and applying what they considered the appropriate label. All had been given numbered identity discs at Darjeeling. Crawford, in addition, suggested numbered linen squares such as adorn the backs of Rugby football players. This worked well enough, besides amusing the porters, until dirt rendered the number and its background indistinguishable. By that time, however, we were more expert at identification, even of the non-committal Mongolian face.

From Gangtok, the pleasures of which were somewhat too much for our muleteers, we turned eastwards for the march to Karponang, ten miles away at a height of 9,500 feet. Not
Tengkye Dzong is located halfway between Darjeeling and Everest at the mouth of a wide valley with hamlets and gompas on the hillsides. Here the expedition's tents are seen before the lake on which the city is built.

Yaks are indispensable beasts of burden in the Himalayas. Loaded with huge crates and boxes, these indefatigable beasts are not affected by the high altitude and can make a long day's journey over the roughest mountain passes.
The Base Camp was established in April while snow was still falling. Here most of the important provisions were stored before they were transported to the other camps which were established higher and higher up the flank of Everest.

The East Rongbuk glacier is one of the mighty rivers of ice which move down the side of Everest. At certain places curious pinnacles of ice, sometimes seventy feet in height, rise above the surface of the glacier.
for many months should we live at so low a level. On this march, for the first time, we saw little patches of still unmelted snow. Primulas and magnolias were beginning to bloom, and a ring-ousel was seen.

At Karponang we took the precaution to open all our kerosene and petrol tins. If this is not done at intervals, leakage occurs owing to variations in atmospheric pressure. In the evening, over a roaring wood fire, the climbing plans were brought out and further discussed. Shebbeare remembered that in 1924 the porters had been seriously affected by the long carry from Camp IV, at nearly 23,000 feet, to Camp V, at 25,200 feet. We thought that this might be remedied by an improved acclimatisation, and that it was important to try to make a more comfortable Camp V. Above, owing to the need for a rapid advance while the weather was favourable, the climbers would inevitably get ahead of their acclimatisation. Norton's experience seemed to indicate that we must try to get to the top in three days from Camp IV.

The character of the country was now changing fast, forest giving way to slopes of grass and stone, of a generally Highland appearance. At Tsomgo, 12,500 feet, the lake was still frozen over, and there was snow around the bungalow. Great banks of dark cloud away to the west made it imperative to lose no time in crossing the Natu La, 14,300 feet, next day, lest the pass should become closed to traffic. We found a letter from Crawford, saying that the advance party had left only two days before. The sight of the magnificent rock peak of Chomunko, 17,500 feet, had been too much for the thrusters, and four of them successfully tackled it. This climb had a certain value, for it brought a renewed confidence to some, while to others it brought home the advantages of unhurried training.

Greene was rapidly becoming an expert dentist. He had
THE MARCH

already relieved an officer of the Telegraph Department of a molar at Pakyong; he now did the same for Pasang Dorje, Shebbeare's servant. Dorje was sublimely indifferent to the absence of an anaesthetic. A sup of whisky, a quick wrench, and he went happily off with his piece of damaged ivory in his hand.

All were up early on the morning of the 18th for the crossing of the Natu La into Tibet. We hoped for a view of distant Chomo Lhari, 23,997 feet, before the clouds came up. As snow lay on the hills, goggles had been served out to the porters the previous evening. It was interesting to observe the first effects on the party of an altitude of over 14,000 feet. Those who had recently been in the Himalaya were practically unaffected, while others admitted to slight headaches.

We gathered round the fluttering prayer-flags on the top of the pass, the old hands almost envying the newcomers their first look over into Tibet; a vision of snow-streaked brown and purple hillsides, of sharp-cut outlines in the thin, clear air, of Chomo Lhari, fifty miles away yet looking quite close. A new world of limitless horizons after the confined landscape of the foot-hills.

There was a good deal of ice on the northern slopes of the pass, making the descent by no means easy for the mules. But Chumbitang bungalow, five miles on, was reached without accident. Though the sun was powerful enough overhead, a cold breeze blew up from the south, and a good fire was welcome that evening. Birnie, anxious for the welfare of our ponies, paid a surprise visit to their lines after dark, to find that their porter grooms had purloined the horse-rugs for their own use. After severely reprimanding them, he repeated the visit later on. The rugs again adorned the wrong bodies. This kind of thing had to be stopped, so next morning the culprits were
brought to justice in the presence of the whole porter corps. The two principal grooms were summarily dismissed and sent back to Darjeeling, while sounds of strife outside indicated that Shebbeare was dealing faithfully with his own man—the rascally old Pasang Dorje, of the tooth episode. This early and drastic action had a good effect, for the men realised that we meant business.

It was a lovely march down to Yatung in the Chumbi valley, through Scotch firs, rose trees, and scanty juniper. The Chumbi valley must be one of the richest in Tibet, for through it passes the trade between Lhasa and India. The men conduct the carrying business while their families cultivate the fertile, sun-bathed soil. We saw innumerable fields under rice.

Half-way down a great mountain spur, the road passes the red-hat Khajuk monastery, in a magnificent position. The head Lama is himself a good artist, and has painted some remarkable frescoes depicting phases of human life. Among the many images was one of a white-faced, white-clad female figure, which we were assured represented Mount Everest. This was good enough for the porters, who smothered the image in votive scarves. The monks were very friendly and inquisitive. As usual, they wanted to know why we took all this trouble to visit Everest. Evidently no one, not even General Bruce, has yet been able to offer an explanation which conveys any meaning to the Tibetan mind.

At Pipitang, Shebbeare and I were stopped by a bland person—fortunately Karma Paul had joined us—who said that the Dipon (Tibetan Trade Agent) would be glad if we would call. The gateway of the house was adorned with various instruments of punishment, whips, thorny canes, and cords, no doubt by way of discouraging potential malefactors. The Dipon, clad in the usual Chinese dress of silk, with a turquoise pendent
from his left ear, greeted us smilingly. He had a somewhat nervous, anxious demeanour, but polished manners. We noticed that, although tea was served to us, in beautiful china cups but from a Japanese tin tea-pot, he took none himself. He was very concerned to know how many names were on our passport. It was necessary to admit that there were only fourteen, but a telegram to Williamson soon regularised the presence of Thompson and Smijth-Windham with the expedition. Reassured on this subject, the Dipon became more human and less official. He desired to know the exact relationship of myself to General Bruce and, of course, our purpose in going to Mount Everest. Mountaineering as a sport is incomprehensible to a Tibetan administrator. Possibly he thinks that we seek gold. Shebbeare, Karma Paul and I did our imaginative best, though our explanation was received with a courteous but obviously puzzled incredulity, and we retired from the presence thinking that we must improve upon our story.

On our way through the village we came upon a man lying on rugs in a courtyard. He asked for medical treatment, and the bystanders, who included many women, explained with amusement that he was a murderer who had just received 150 lashes by way of inducing him to confess. He made no attempt to deny this statement. The Tibetans are a tough people, in every sense of the word.

Beyond the village we met Captain A. A. Russell, the British Trade Agent, who was on his way to lunch with his "opposite number." He most kindly invited Shebbeare and me to stay at the Residency in Yatung, and showed the greatest hospitality to us all. Thompson and Smijth-Windham had meanwhile arrived from Kalimpong over the Jelap La.

At Yatung there is a garrison of Indian infantry to protect the trade-route which, since the Lhasa expedition of 1904, we
have held as far as Gyantse; and the sepoys play football and hockey on a small, comparatively level space of ground. A few rocks break the surface here and there, adding a sporting element of chance to the games. On this ground the irrepressible Wood-Johnson proposed a game of polo, three-a-side, on the expedition's ponies. He could contribute two polo-sticks and a ball. For the rest, hockey-sticks borrowed from the Jemadar of the 103rd Mahratta Infantry would serve. It was a strange game, but an undoubted success from the point of view of the local inhabitants, who turned up in force. Some skill was required to keep our ponies from galloping away up or down the mountain-side, and to hit, occasionally, a rapidly disintegrating polo-ball (the rocks were very hard) with the short hockey-sticks. Luckily the second-hand reins and saddlery held together pretty well. The only accident was due to a horrible foul by Wood-Johnson which involved Boustead in a toss, to the delight of the crowd. It is only right to add that Birnie, our one expert, appeared to have no difficulty in competing with the conditions.

Here we again opened our fuel tins, finding that there was already some slight leakage. The new porters' bell tents were pitched and found to be of excellent quality, though lacking ventilation. This was easily remedied by slitting holes in the tops. Meanwhile part of our equipment, on Pangda Tsang's fast mules, passed through Yatung without stopping. Birnie made a forced march that night in order to stop it at Gautsa, twelve miles on.

We followed along the stony track next morning, the 21st. Our way led through thick bush under a fierce sun, past the prosperous-looking village of Galinka to Lingmatang plain, where the ponies seemed to enjoy a gallop as much as we did. Then the hills closed in upon us again. A cold wind now
sprang up, a few flakes of snow fell, and by the time we reached Gautsa, 12,500 feet, and the riotous welcome of the first party, it was evident that the milder conditions of our early marches had been left behind for good.

Gautsa lies in a deep defile among wonderful mountain scenery. Previous expeditions had noted its advantages as a place in which to acclimatise before entering upon the rigours of the Phari plain. But there was a look of snow in the sky, and it would not do to get caught here by a heavy fall. On the plateau beyond, the west wind prevents the formation of heavy drifts. We of the second party were for the most part tolerably well acclimatised; those of the first had spent several days here, and a few had pitched and occupied a camp up a side valley, considerably higher. Accordingly we decided to push on.

At Gautsa all the members of the expedition assembled for the first time. Most Englishmen are afflicted by shyness when meeting strangers, but this wore off as the march proceeded, and we were a happy company in which everyone had something fresh, of experience or outlook, to contribute. Crawford began the breaking of the ice with a most interesting disquisition upon Russia, which he had visited in the previous year. Wyn Harris and Shipton could discourse on Kenya and its many problems; Boustead on the Sudan; Shebbeare on the Indian forests; while in Greene we discovered a raconteur of unrivalled capacity. In a party drawn from so many professions everyone could offer something to the general stock, and we never had a dull evening. At Gautsa I appointed Shebbeare second-in-command.

The expedition split up once more into two parties for the march to Phari. Heavy snow fell during the night of the 22nd March, and early next morning it was so cold that some of us
put on our windproof smocks. But the sun quickly put an end to that.

The Gautsa defile is thickly wooded; this was the last forest growth we were to see for many a day. Signs of change were all around us. Yaks with their slow, swinging stride and musical bells were coming down the road, shying at the Europeans. Trees soon gave place to grass-clad slopes, and steep-sided gorges to rounded hills and U-shaped valleys. Then after a long, slow climb we emerged with startling suddenness among the rolling downs of the real Tibet, and were struggling against the blast of the west wind. Quite close now, Chomo Lhari towered upwards. A short halt at a solitary tea-house, a mile or two round the flank of a hill, and Phari appeared in the distance. Mule-trains, with their wild-eyed drivers, passed on their way southwards bearing wool for the Indian markets. The flat plain was scarred by the burrows of the little mousehares, so that careful riding was advisable. Phari looked about two miles off; it was really five.

Here, for the first time, we pitched our Whymper tents, one for each member. From now on to the Base Camp, one's home was a canvas-covered space seven feet by seven. A very good home it was too. There was plenty of room for the "Trojan" camp-bed and for one's suitcases and kit-bags. It was far more comfortable than the crowded rest-houses. Crawford, however, had some reason to disagree, for that night his servant Pemba Dorje, who had become a great deal too fond of chang, the barley beer of the country, disobeyed orders about his candle-lantern and contrived to burn a large hole in the end of his tent, besides ruining a suitcase. Fortunately the conflagration was discovered early and put out. Otherwise, with the wind that was blowing, the whole camp might have gone up in flames.

Russell was passing through on his way back to Gyantse.
This was an opportunity to return in some small measure his hospitality. The mess tent was pitched in the courtyard of the rest-house, the three-ply tables rigged out, and the bandalasta ware arranged in all its orange glory. Tencheddar, our principal chef, was closeted in anxious conclave, hours in advance, with Shipton the mess secretary. Our small supply of Johnnie Walker was ruthlessly tapped. The resulting banquet, however primitive in reality, had some semblance of the genuine article, and the evening passed in merriment.

Phari (Hog Hill) has often been described, and it has not changed. Here the expeditions of 1922 and 1924 had many transport difficulties, for the place is on the main trade-route to Lhasa, pack animals are in constant demand, and prices are mercurial. We blessed ourselves for having arranged with Pangda Tsang to see us right through to Kampa Dzong; for, as Tibetan Government Trader, he had first call on transport, and the responsibility was his. Yaks and mules appeared from a distant and apparently blank horizon. Both Dzongpens were away; their Gyembos (assistants), men with a highly developed sense of business, seeing no way to profit by this arrangement, tried to give trouble. They failed, and the expedition moved out with no delay, on March 25th.

At this period of the year, perhaps at all periods, the traveller from Phari to Kampa Dzong must expect a rough passage, for he must cross the high ground formed by the northern spurs of that great mountain Pauhunri. We received news of heavy snow on the usual route, and our transport drivers insisted on a diversion towards the north, via the easy Tang La, 15,200 feet. After this we would turn sharply to the west. We camped beyond the pass that day, at the very foot of Chomo Lhari. The wind was blowing strongly at our camping-place, Shabra Shubra, but all thought of discomfort was banished by
the view of that magnificent peak. Longing glances were cast on the tremendous arête of rock and ice which rises in one unbroken sickle-like sweep almost to the summit. As darkness came on, it seemed that the cold up there must be as that of interstellar space, and we thought of General Bruce’s remark that Camp IV on Mount Everest is nearly as high.

That night was a presage of the future. The wind never stopped, and thirty-six degrees of frost Fahrenheit must have tried the baggage animals and riding ponies severely. Still, the morning was fine and there was a temporary lull which enabled us to breakfast in the open, while Phil and Flo, the mess tent mules, went off westwards across the snow-sprinkled plain. We started in our turn, leaving the long line of telegraph poles which runs remorselessly on northwards to Lhasa to link the modern world with the changeless solitudes which saw the cavalry of Genghis Khan.

The lull was short-lived. The wind came screaming across from the west, right in our faces; the snow, ripped in clouds from the flat plain, made direction-keeping difficult. Partly riding, partly walking to keep warm, we ascended very gradually towards a cleft in the distant hills among which, twelve miles away, was Lunge Bur. The wind in the cleft was tremendous, and we had difficulty on a snow-covered bank, where a cornice had formed and the ponies, led by their bridles, floundered helplessly down. The porters had a hard struggle to reach camp, and we pitched most of the tents ourselves. Shebbeare, usually indifferent to discomfort, considered this the hardest march he had ever done. Already we were at a height of about 16,000 feet and puffed a good deal when hauling on guy ropes, carrying heavy stones, or hammering in tent pegs. That evening the wind dropped, and we enjoyed a wonderful view of Pauhunri. Wager and I even summoned up
energy for a scramble on the great gravel banks behind the camp.

After this rough introduction to plateau travel, the next day's march to Limbu was looked forward to with some trepidation, for it involved the crossing of the Dongka La and Chago La, both over 17,000 feet high. But the luck turned and we had a most enjoyable march, feeling the altitude but little. The great Sikkimese peaks, Pauhunri, Kangchenjau and Chomiomo, climbed years ago by Dr. A. M. Kellas, gleamed blindingly against a sky of deepest blue.

The party had come along very well on this day, but acclimatisation has its setbacks. Next morning several members complained of lack of sleep, and of feeling the cold (31 degrees of frost). However, it was an easy ten miles to Tatsang, in perfect weather. There can hardly be anything more delightful than marching across the Tibetan levels in such circumstances, before the wind gets up. On the way we found some cliffs which positively invited a halt for a sun-bath on the warm rock. Longland interpreted the invitation differently. To him anything steep is a direct challenge. Selecting a moment when I was at peace with the world, he departed stealthily round a corner, and was well on the way up a vertical pitch before I could develop my parrot-cry of "safety first on the way to Mount Everest." However, Longland shares with lizards the faculty of adhering to perfectly smooth walls.

Tatsang boasts a nunnery maintained by the offerings of yak drivers. The ladies showed much interest in us, positively liked being photographed, and encouraged a visit to their gompa. Theirs must be a hard life, for their supporters are few and poor themselves, and the surrounding soil does not look as if it made much of a return to labour. The wind here blew suffocating clouds of dust and sand through the camp.
Already that distressing complaint of the Tibetan plateau, sore throat, was making its appearance. Many of us had, long ago, given up smoking; and we strove with nasal douches and throat gargles to keep the enemy at bay. Some escaped altogether, but the majority carried their sore throats with them to Mount Everest, and suffered a good deal.

Kampa Dzong was reached on the 29th, after a memorable march. The way led for nine miles up a gently ascending valley to a pass of about 17,000 feet. A herd of gazelle and a single kyang (wild ass) kept on our flank, like the scouts of an army. Longland, after some complicated manoeuvres, drove them across our front at very close range. They moved with that easy, effortless stride which conceals speed. Arrived on the pass, Shipton, Smythe, Wyn Harris and I thought we might test our acclimatisation, and our theory of slow but continuous and rhythmical upward movement, by ascending a hill on our left about 1,000 feet higher. Brocklebank, Wood-Johnson, Longland and Wager followed. All found themselves going well, provided they did not hurry. Our reward was one of the grandest views imaginable, and our first sight of Mount Everest, nearly a hundred miles away. At our feet lay the plain of the Yaru river. Beyond it, the glittering northern walls of the Himalaya. The eye ranged over Pauhusri, Kangchenjunga and Chomiomo on the east; then Siniolchu, Kangchenjunga (with the Bavarians’ ridge in full view), Jonsong peak and innumerable unnamed summits; and, far away in the west, Makalu and a great snowy triangle which could only be Mount Everest. The snow had that yellow look which distance alone can give.

It was a glorious morning. The wind was still asleep, and we basked for an hour in the sun, one or other rising at intervals to use camera or telescope. There was little conversation, for a scene like this is best gazed upon in silence. Each, perhaps,
was thinking of what his part might be in the battle for that distant summit. Reluctantly we turned to descend the easy scree slopes to the pass, on which poor Kellas died in 1921. Eight miles down, the steep-sided valley ended in a gorge which Gustave Doré would have loved to depict; and suddenly, round an abrupt corner, rose the soaring battlements of Kampa Dzong.

Most travellers to Mount Everest have happy memories of Kampa Dzong. Here they descend to 14,000 feet from the cold uplands of the Dongka La. The place is a perfect little sun-trap, and besides has architectural beauty of the highest order. Those old Tibetan builders had an eye for line and for proportion. The rounded towers, one above the other and connected by steeply mounting walls, lead up to the square-cut citadel with its sloping sides. The whole edifice, springing from precipitous rock, is a setting for a fairy story.

The Dzongpen of this place was away at Lhasa, being invested with the high title of Dzaza (General). His representative, the Nyapala, received us with great friendliness and procured our fresh transport without much delay. These Tibetan officials always turn out in beautiful costumes of Chinese silk, of purple, blue or claret, usually surmounted by a fur-edged hat with the official button on the top. The leader of a Mount Everest expedition has, of course, no official status. Not for him the cocked hat and gold-laced uniform of the political officer. Yet he must conduct negotiations clad in such a way as to “eat no shame,” as they say in the East. The usual mufti of the West seems dull and unimpressive in contrast with the gorgeous silks of China. Accordingly we took thought, of which the outcome was, to say the least of it, singular. The expedition’s ambassador received his visitor in the mess tent, arrayed in a Tibetan gown of watered silk lined with sheepskin with a red girdle, the whole surmounted by an opera-hat. The effect
was all that could be desired. Here obviously was a man of standing in his own country. Deep called unto deep in the most friendly manner, with mutual respect; and our negotiations were completely successful. It should be added that the opera-hat had been brought along in no spirit of vanity. Its destination was intended to be the head of that porter who should do best on the mountain. The men gazed upon it with admiration, and were fascinated by its mechanism.

At Kampa Dzong we found our advance stores, all neatly stacked and guarded by the sirdar Nursang. To assist him, he had acquired a Tibetan mastiff, to whom he gave the astounding name of Police-ie. One-eyed and suspicious, Police-ie began by soundly biting Wood-Johnson, who approached the store-dump on his lawful occasions but without the formality of an introduction. The sacrifice was sufficient. Police-ie was reassured, and thereafter bit none but her own countrymen, of whom she spared neither sex nor age.

Though our friend the Nyapala was doing his best, the new transport did not turn up for four days; but there was plenty to do. Lobsang Tsering arrived direct from Gangtok with the post, reporting that the Sebu La was now open to traffic; despatches had to be written, stores overhauled. Longland, our quartermaster, worked overtime, assisted by relays of volunteers. The wireless officers assembled their equipment, hoping that we should be able to listen in on April 1st, and hear the result of the Boat Race. They were unsuccessful.

We explored the Dzong (fort) by invitation of the Nyapala. The way lies up a zigzag path under the southern precipice, past an enormous chorten (tomb), and one enters the fort up very steep steps through a wooden door with carved side-posts and lintel. On one side are prayer-wheels some three feet high, easily turned by a movement of the hand. The lower storey is
occupied by a small carpet or rug manufactory, and access to the next is obtained by means of insecure-looking, slippery wooden ladders. It is just as well to let one's host go first, as the whole place is ill-lit and on each floor there is a savage mastiff which is hastily grabbed by the attendants, often only just in time. After stumbling over many things and bumping one's head in odd corners, one emerges thankfully into brilliant sunshine on the roof, whence there is a magnificent view of the surrounding country. The sheer walls, mounting from the very edge of the precipice, give a tremendous impression of depth below. We are told that condemned criminals used to be hurled from this place.

Kellas's grave was next visited. The covering stone had been thrown down. We hauled a great slab into place, and carved on it a fresh inscription, with the assistance of some monks from the gompa of the hillside above, who, we hoped, might take some interest in its preservation. When all was done, Shebbeare, the oldest of us, read the 121st Psalm. Kellas's grave looks out over the plain to the great mountains which he climbed, and is in sight of Mount Everest.

The only drawback to Kampa Dzong was the dust, which added to the growing tale of sore throats. There was no escape once the wind had got up, at about eleven o'clock every morning. The dust penetrated everywhere, making our food and drink gritty and our throats dry. Several people had recourse to the Matthews respirator, and some heroic spirits even contrived to sleep with it on; but the effort of inspiration through the copper gauze, slight though it was, produced a feeling of claustrophobia which was too much for others.

On April 2nd the new and very likely yak transport was loaded up, and we did the eighteen-mile march to Lingga, past
Although Everest is twelve miles away from the Base Camp, it looks enormous, completely dwarfing the surrounding peaks, some of which rise to a height of nearly 25,000 feet. In this picture the peak is partly obscured by cumulus clouds.
Seen from the north, Mount Everest is a gigantic, triangular pyramid which is exposed to the terrible blasts of the west wind. As yet no attempt has been made to climb the mountain from this side for there would be great difficulty in getting porters and camps up it.
Mende and its willow trees, and over the Yaru river. It was a
day of terrible wind and dust. Lingga is surrounded by ponds
and marshes, where the bar-headed goose and Brahminy duck
hold high revel.

Thence to Tengkye Dzong, halfway from Darjeeling to
Everest, where transport had again to be changed. This was
a life of contrasts. Yesterday we had marched bent forward
against the wind, muffled up to the ears and cursing the dust.
To-day the wind tarried and the sun shone brightly. Larks
sprang into the sky before us in full song, or ran cheerfully
about among the little dunes. Lizards basked in the warmth,
and we followed their example whenever the sandy margin of a
pool or some alluring outcrop of rocks suggested a halt. There
was no need for hurry, as the distance was short and the mess
tent awaited our convenience, a tiny green speck against the
red hills in the distance.

Tengkye Dzong is a delightful spot at the mouth of a wide
valley, with hamlets and gompas on the hillsides. The Dzong
overlooks a little lake—a perfect setting. The resident Dzong-
pen is an amusing character; a native of Lhasa who would be
perfectly at home in Paris, for he is a born boulevardier. Our
arrival was a perfect godsend to this exile. He called at once,
sampled some sloe gin with emphatic approval, asked innumer-
able questions, and promised every assistance, including the use
of his own mules. He administers, according to his own ad-
mission, an unruly and rapacious district; and he advised us to
avoid the old route via Gyangkar Nangpa and go by a parallel
route to the north, over the Bahman Dopté pass. Then he asked
Shebbeare, Greene, Wood-Johnson and me to tea for next day,
and tactfully left us to our work, waiving the formality of a
return official visit.
In the evening several of us walked over to a charming willow grove about half a mile away, and found it full of birds—magpies, linnets, finches, a hoopoe, and many others. It is a never-ending joy to find the birds of Tibet so tame; the place is a paradise for the ornithologist.

That acclimatisation was improving was shown pretty clearly here. Tengkye boasts level ground, and the porters started some energetic football, of which a few, including Lhakpa Chedi, knew the rudiments. This attracted every Tibetan man, woman and child from miles round, and our camp became an animated and most amusing scene. Rules, of course, were thrown overboard; numbers were immaterial. The great thing was to go for the ball, and propel it in any direction by foot, hand, or face. The Tibetans, to whom an altitude of 15,000 feet was as sea-level to us, were indefatigable. The seething mass, madly striving after an invisible ball, surged across the ground, and we watched, helpless with laughter, though tents might fall and guy ropes suffer.

Then Boustead gave a lesson in boxing, which was an instant draw. In no time our six sets of gloves adorned as many grimy pairs of hands, the owners of which busily endeavoured to exterminate anybody within reach, while the crowd roared in ecstasy. Two Tibetan children, perhaps six years old, fought a spirited and interminable round which fairly brought the house down, and were rewarded with many sweets.

A great afternoon's sport ended with an exhibition of pole-jumping by Longland, using a long bamboo. This took on at once, and as neither Sherpa nor Tibetan is content with the rôle of passive spectator, some very remarkable jumping, or rather falling, was observed. But these men are unkillable. Altogether a good day.
The tea-party in the Dzong was a great success, both socially and from the point of view of business. It was soon clear that the word tea was merely a "façon de parler," and that we were in for something much more strenuous. The friendly Dzongpen introduced us to his wife, a lady of much character, with a large black patch on her nose. The patch disappeared later, presumably because our hostess was reassured on the subject of the evil eye. A present of bandalasta ware and a needle-case, and Wood-Johnson's insinuating ways, secured her approval, and things went with a swing. Course succeeded course, rice, macaroni, mutton, wheaten biscuits. Tea was soon discarded in favour of chang. The moment you had taken a sip, your cup was filled again to the brim, and no excuses were accepted. Karma Paul was in his element, while Lewa and other sardars in their best bib and tucker sat in a solemn row, attended to by the domestic staff. Then two ladies were introduced, whose duty it is to dance and sing before distinguished strangers. Their voices were quite melodious, their dancing a rather stiff sort of shuffle and stamp. The dignity of the proceedings was only slightly disturbed by Shebbeare's judgment of Paris.

Our host was becoming mellow and benevolent. English travellers did not pass every day. He felt that he was appreciated. He remembered, as a boy, seeing Sir Francis Young-husband at Gyantse, where his father was Dzongpen. He would see that his guests were fairly treated. The headman of Gyangkar Nangpa was sent for and was obviously astonished to receive a stern and uncompromising order to supply transport, along a route at some distance from his village, at reasonable rates. When at last we were permitted to go, lighted through the darkness by torches, we felt that we had in the Dzongpen
of Tengkye a sure ally. In the courtyard of his house he showed us his magnificent mules, with their ear-ringed, long-haired, savage-looking drivers.

Perhaps we spoiled the Tengkye people with too much bread and games; for when work was needed, to get off on the morning of April 5th, a marked lassitude was apparent. But the Dzongpen came down himself and worked like a Trojan, allotting loads, even lifting them with his own hands, and cuffing recalcitrants. We said good-bye to him with sincere regret, as the long train of animals and men wound away up the valley for the eighteen-mile march to Khengu over the high Bahman Dopté pass. The dust at Khengu was appalling, and we were glad to move on to the meadows of Dochen, where the new Gyangkar-Nangpa transport was to meet us. From here we could see the peak of Shankar-ri, 20,000 feet high, on which an attempt was made in 1922. It was taboo this time.

News came in, after our arrival, that Karma Paul's and Lobsang Tsering's ponies had both fallen. Karma Paul broke his little finger and Lobsang Tsering his collar-bone. The one was soon dealt with, but the other nearly ended in tragedy. Greene and McLean went back and brought Lobsang Tsering in. It was decided to give him an anæsthetic and set the bone at once. Greene is an expert anæsthetist, and no difficulty was expected. But anæsthetics, it seems, can play queer tricks at over 14,000 feet. Lobsang went to sleep, and his collar-bone was quickly set by McLean; but then he did not come to, and the doctors had to work hard with coramine and artificial respiration until the heart's beat was resumed, and a very green and shaky Lobsang returned to consciousness. Arrangements were made for him to stay several days with a local Tibetan
family, after which he was to follow us to the Base Camp. He was very plucky over the whole business.

The Gyangkar Nangpa men, perhaps really impressed by the lecture given to their headman, brought the animals in good time—yaks and donkeys. But loading up the transport on the morning of the 7th was endlessly prolonged, and the donkeys seemed to be getting more than their fair share. It is amazing that these little creatures, with their pipe-stem legs, can carry 160 lbs., the same as a yak. If given more than that they simply lie down, and the transport officer has to re-allot loads, with the active non-co-operation of the drivers.

The ford at the crossing of the Chiblung-Chu caused both amusement and profanity; for the water was fairly high and everybody wanted to know if his own particular bedding was getting soaked, a question mainly of the size of his baggage animal. If there is a sand-bank in the middle of a river, yaks love to assemble on it and defy the execrations of their drivers on the near bank. They will stay there in placid obstinacy until dislodged by some accurate stone-throwing.

We crossed the river again, to camp at Jikyop, by means of an extraordinary sort of stone pier, and spent some unpleasant hours among wind-driven sand. About this time various members again took to slow training walks up any convenient hill behind camp, going up perhaps two thousand feet or so, but always keeping a speed well within their powers. Having ridden a considerable portion of the day's march, they were fresh for a moderate climb in the afternoon. Memory lingers over these occasions when parties of two or three, informally arranged, would select each their own ridge and move off without haste, content to go so far as inclination or condition prompted and sure of some unforgettable picture of plain and
hill and distant ice-clad peak. The level rays of the setting sun would pick out beauties unseen under the glare of midday, while harsh outline and lack of atmosphere were forgotten in contemplation of the ever newly revealed loveliness of colour. Then would come the effortless descent towards those little green tents far below which represented home; a few minutes perhaps with the porters collected round their cooking-pots and obviously enjoying themselves; and a return to the cheerful story and argument of the mess tent. Happy days, when everyone was strong and unstrained, and hope ran high.

The next two marches, to Trangso-Chumbab and Kyishong were long and trying. The west wind seemed to be gathering strength, and to blow all day and most of the night, and the dust was everywhere. The transport officers had a particularly hard time getting into Kyishong through a full gale, which of course took a great deal out of the baggage animals. We searched in vain for a good camping site, for the village was aggressively pungent. But shelter from the wind could only be found behind a wall there. We just had to make the best of it and pray for the morn.

It was a relief when we started on the last stage to Shekar Dzong, which turned out to be actually shorter than the map indicated. Usually it had seemed to be the other way. The country about here was not inaptly compared by Shebbeare to the mountains of the moon. In every direction were isolated stony hills, of conical shape and very dry. Mounting a low pass, a mile or two beyond Kyishong, we looked across a wonderful landscape of plain and hill to the single pyramidal rock on which Shekar Dzong stands. Had the ancient Western geographers known of this place, it would certainly have been included among the wonders of the world. The name, which
means "white glass," is sufficiently descriptive. The town of white houses is at the foot of the rock; halfway up, perched on steep ledges and built with cunning artistry, are the gleaming walls of two great monasteries; above them the Dzong, and on the highest pinnacle, about a thousand feet above the plain, a sort of look-out post. Even more than Kampa, it is a setting for a fairy story, a place of enchantment.

To Greene's just indignation, we camped close to the town, on exposed ground swept by the evil dust-laden wind. A much better site should have been chosen, a mile away.

Our pleasure in seeing Shekar Dzong was spoilt by two things, the presence of a smallpox epidemic and the discovery that some of our equipment and stores had been looted on the way. The former was not really serious, since the porters as well as ourselves had been vaccinated before starting. The latter was a calamity. All hands had to be turned on to make a full inventory, the Dzongpen informed, and a guard set—rather a case of locking the stable door after the horse had been stolen, though we had still five marches to go. The inventory disclosed the alarming fact that several pairs of porters' high-altitude boots, a Meade tent, and sundry wind-proof smocks and pairs of warm socks were missing, and that many ration boxes had been opened and their contents rifled with a skill which indicated that the thief knew exactly what he wanted. The Dzongpen called soon after this work had begun. He was friendly and anxious to do his best to help us, and began by arresting a number of our transport drivers, who were under strong suspicion. According to Tibetan (and our own mediæval) custom, he flogged them next day to make them confess, but without result. The stolen things were never traced, nor the culprits discovered. Shebbeare had proposed that he and Crawford
THE MARCH

should go on ahead to Rongbuk and begin making the route up the glacier. This programme fell through owing to the need for better supervision of the transport personnel and prevention of further losses.

Smallpox was at this time exacting a heavy toll from the neighbourhood. Apparently a knowledge of the benefits to be derived from vaccination had penetrated to this part of Tibet, and the Dzongpen wanted lymph. There was none in our medical stores, so I gave him a message for the British Trade Agent at Gyantse, asking for a supply.

The Shekar district is large and important, and includes the Rongbuk valley and Mount Everest. It was particularly advisable to secure the goodwill of this Dzongpen, in order to recruit Tibetan porters for work at the glacier camps, and organise supplies of fuel. Negotiations were opened at the first interview, with most satisfactory results. The Dzongpen placed at our disposal his Chonzay (steward), who had worked for other expeditions, and gave us excellent transport at fair rates. He was a nervous-looking, bent-backed little man, by no means impressive at first sight. But he was an honourable gentleman, and a good friend to us.

A pleasant interlude between the hours of stock-taking and inquisition was the pitching of the new arctic tents. They were pronounced to be a success, a sound provision against the blizzards of the East Rongbuk glacier. Then it occurred to someone that a general hair-cutting might improve our appearance. Wyn Harris proved our most efficient barber, but very ill-advisedly submitted himself to Crawford’s hands when his turn came. The resultant coiffure nearly caused a riot.

We visited the great monasteries, where the art of selling curios has, for some reason unknown, reached a high state of
development. There are no trippers in Tibet. The Lamas had set out a regular little shop in a room, and pushed their wares—banners, cups, spoons, carvings, charm-boxes—with the skill of professional pedlars. They were very good-tempered, and thoroughly enjoyed argument with both climbers and porters. The architecture of their monasteries is a delight to the eye; austere and perfect in line. At every point one saw unexpected beauties—possibly to some extent fortuitous and due to the accident of rock-formation, but with evidence of a definite artistic perception. We were admitted to one of the services, and then taken to see, in a very dim religious light, a gigantic image of the Buddha and some highly realistic busts of departed abbots, including the last incumbent who so impressed the 1921 expedition. Judged from the photograph taken at that time, the likeness was excellent.

Emerging through the highest roofs, several of us climbed steeply up through the ruined Dzong to the look-out post, which seemed as if it might come crashing down at any moment. We brought a telescope, for it was known that Mount Everest, some fifty miles away, could be seen from here. Unfortunately there was now bad weather to the south, but we caught an occasional glimpse of the north-east arête and the north ridge; a good deal more impressive than some had expected to find them.

The porters of course knew that Shekar was the last place of even moderate size that they would see before entering the wilderness of rock and ice. They broke out a little; especially the bootmaker, who got extremely drunk and was well hammered in the town. That did not matter, but our sleep also was interfered with in camp, and Birnie had to relieve me in successive suppressions of the now loquacious Lhakpa Chedi.
Our departure, on April 13th, was a dreadfully protracted affair. There seemed to be plenty of yaks and donkeys about, and the little Dzongpen, with all his staff, looked very busy; but his head clerk, and the lamas, still as anxious for barter as ever, delayed matters, and the last load did not leave for Pangle till noon. We paid a last ceremonial visit to the Dzongpen, photographed him at his own request in his full regalia, and parted from him on the best of terms. He wrote to us from time to time while we were on the mountain, cordially inviting a return visit.

The last load had left Shekar, it is true; but our difficulties were not yet at an end. The first part of this march lay through a very narrow defile, where box after box was scraped off the donkeys' backs, till we seemed to be on the track of a defeated and retreating army. We had to work pretty hard, some retrieving the donkeys, which had taken advantage of the position, others helping the profane drivers to tie the loads on again.

Crossing the Phung Chu by an unusually good bridge, we were just in time to receive the full benefit of a furious gale of sleet, which lashed us unmercifully all the way to the snow-covered camping-ground of Pangle. It mattered little; the porters were in splendid form, now that the temptations of cities were behind them.

We were now marching due south straight for Mount Everest. In front rose the Pang La, about 17,000 feet high, from which we hoped on the morrow to have a good view. To that end the big telescope was unpacked and assembled as quickly as frozen fingers would permit. An early start would have to be made, for there was a good deal of new snow about.

We were toiling up the slopes to the pass by 6 a.m. next day, but never got the view, clouds hiding everything to the
south; so we descended without delay to that charming spot, Tashidzom. The valley here may be said to be an eastern continuation of the Rongbuk gorge. Most of the water in the river flowing past had issued from the Rongbuk glacier. Tashidzom boasts a delightful grove of willow trees, carefully maintained and well watered, standing among green meadows where we camped. The “Squire” of the place has obligations towards the Rongbuk monastery, which he supplies with wood and stores. He undertook to look after our ponies, which would be sent down the moment we reached Rongbuk; here, even at this early date, a certain amount of grazing could be had, and the large Tibetan pulse. Birnie, Shebbeare and I had a look at the old gentleman’s own stables, and came to the conclusion that the ponies would do very well there, better than at Chö-Dzong, which is farther up the valley.

There remained only three more marches to the Base Camp. Mount Everest could not be seen, but we felt that it was very close, and that we were entering the battle-zone. During this long period of marching a close eye had been kept upon condition and form. So far we had been lucky, for there had not as yet been a single case of serious illness—just minor ailments such as sore throat and slight stomach troubles. None of the dreaded dysentery which saps a man’s strength and is so hard to throw off.

Form was a different matter. No amount of organization or thought will make a party acclimatise at a uniform rate. Our experience conformed in many respects to that of 1924. Those who had been recently in the Himalaya—Smythe, Greene, Birnie, Shipton, Wood-Johnson and I—were sufficiently acclimatised to feel no distress on the passes. Boustead, of lean and active build, and Wyn Harris, who had been to over
17,000 feet in Kenya, were shaping well. Wager, toughened by two seasons in Greenland, showed no particular signs of wear and tear. Crawford, though he had kept himself in training, both in the Alps and in the Canadian Rockies, had not been in the Himalaya since 1922, and was not, at this stage, at his best. Longland and Brocklebank also gave cause for anxiety; they were clearly feeling the altitude. McLean was difficult to gauge, as he was riding most of his marches, but he seemed fit. On the other hand, Shebbeare, though tough as always, was walking too much, we thought, and carrying too heavy a rucksack, and he looked a little fine-drawn.

As for the porters, one had only to go round the camp of an evening to see that there was not much the matter with them. Away from the worries of civilisation, their pay and maintenance secure for months ahead, they were a happy, care-free crowd. To-morrow could look after itself. For all that, they were proud to be members of the expedition, and anxious to prove themselves mountaineers. The Sherpa does not come to Everest merely for what he can get out of it. He could earn as much money elsewhere. If you asked him why he came, he might prevaricate, or pass it off with an embarrassed laugh. Pride of achievement, or carrying through a dangerous job, or sheer love of the great mountains—and he now knows all about Everest’s pride of place—or escape from the monotony of civilisation? He may not be able to explain, or may not wish to, but he is of nomad stock. He knows, too, that the Englishmen who have come from so far have exactly the same feeling as himself. That is why he gets on so well with them from the very start, even with those who can hardly speak one word of his language. He understands them without the need of speech. How else can you explain his readiness to risk his life in com-
pany with men whom he has never seen before, and may never see again?

The composition of parties for work on the mountain was, of design, kept open till a late hour. This involved a certain amount of strain on individuals, but it would have been, for instance, unwise to tell A and B, at Kalimpong, "You two will climb together"; or to tell C and D, "You two will establish Camp IV." But here, at Tashidzom, some estimate of individual progress was possible, and a provisional allocation of duties could be made. Smythe and Shipton were evidently in splendid form. They had climbed together on Kamet, and knew each other's capacity, speed and rhythm. They became our "best bet" for the summit. Again, Wager and Longland had climbed much together. Wager's special qualities were steadiness, sound mountaineering methods and judgment; Longland's, a strong instinct for attack and a splendid rock-climbing technique. If Longland could acclimatise well during the next three weeks, this should make a very strong climbing party. Wyn Harris and Greene should also do well in double harness. Both were experienced mountaineers, and possessed the right temperament for the game. Others expected to go high were Wood-Johnson, Birnie and Boustead. They had Himalayan experience, but had never climbed together. Whether they took part in the final assaults or not, there was plenty of work for them: the establishment of the higher camps, for instance. At least one climber would be needed to escort the porters down if Camp VI were carried nearer to the summit than before, for on this part of the mountain it is unsafe to let them go alone. Meanwhile, Wood-Johnson could carry on as second transport officer; and Birnie made the welfare of the porters and their selection for the hardest work his special care.
A decision about Crawford and Brocklebank could wait on events. Both were thought to be slow acclimatisers. Crawford was the most experienced mountaineer of us all, spoke Nepali well, was liked by the porters, and was the only man in the party with knowledge of the North Col. Brocklebank, the youngest, should be brought along slowly, and not allowed to get ahead of his acclimatisation. His medical report had been a particularly good one, and he had given many proofs of staying power. A strong reserve was needed, in case of a break-down or casualties among the first parties. His one idea was to be of service, and he never departed from it, now or later.

McLean's duties were expected to be primarily medical. He would be responsible for the health of the Base Camp and the glacier camps while Greene was on the mountain; but he might be called upon as a climber, should need arise.

Content with our tactical plan of assault, and with the provisional arrangement of parties, we marched up the wide valley to Chö-Dzong on April 15th. Norton had warned me to look out on the way for a sight of the mountain up a valley to the south, but there were heavy clouds in that direction during the march, so we crossed the boulder-strewn bed of the river to our very exposed camp site without delay. That evening, several of us climbed up the hill to the north, carrying the naval telescope, and were rewarded by a magnificent view of Mount Everest now hardly more than twenty miles away as the crow flies. In spite of the recent cloudy weather, the north face carried little snow, and with the telescope we could see, in some detail, the ledges along which Norton and Somervell had traversed and the north-east arête which still held Mallory's and Irvine's secret. One thing was obvious: the second step was a formidable obstacle. Every mountaineer knows that you cannot judge rock accurately until you actually, as the
Chomo Lhari is one of the most impressive peaks in the Himalayas. A tremendous mass of rock and ice, it rises in one unbroken sickle-like sweep almost to the summit. This view of the mountain is taken from the camp at Shabra Subra.
Camp I at an altitude of about 17,700 feet was in full occupation by April 21. Mount Everest is hidden from view by the huge walls of a mountain valley.
late Captain Farrar used to say, "rub your nose on it." Nevertheless, the angle of the second step was certainly very severe; the step rose more than a hundred feet above the north-east arete, overhanging slightly towards the top. Careful examination revealed signs of a fault in the rock about halfway up, which might permit of a turning movement on the right, and a steep snow slope seemed to lead up to an equivalent height on the other side. If this snow were in good condition, it might provide a means of avoiding the rock altogether and of reaching the arete again beyond, and to the west of, the second step; after this the route to the summit would lie well above the worst part of the north face.

Norton's route, under the first and second steps and across the great couloir east of the final pyramid, looked remarkably difficult; but we were looking at it frontally and thus could not estimate the true angle. The final pyramid, though by no means easy, seemed practicable. The problem was to reach it across the frightful slabs of the couloir walls.

Darkness began to fall as long clouds drifted across the summit. We descended to camp in a mood of qualified optimism. At least we had been able, for the first time, to see for ourselves, to form a judgment of our own, and from a distance which allowed of a fairly true perspective. Henceforward we should be too much under the mountain to estimate our difficulties with any accuracy.

Excitement promoted early rising on the 16th. Only fourteen miles to Rongbuk monastery. Soon we were passing along the shelves of what looked like gigantic moraines but which Wager defined as river terraces. The valley narrowed as the hills closed in; and a powerful south wind drove into our faces. Grass disappeared. Boulder and scree, snow, blue ice and precipice would be our scenery for the next three months.
As we turned into the Rongbuk valley proper, with its appearance of complete desolation, Tibetan men and women met us in considerable numbers. They were descending from worship or from the performance of more mundane duties at the Rongbuk monastery. The approach was dramatic. At one moment we were walking up the rough, snow-covered track, in a valley which seemed to lead to nowhere in particular. At the next, a last corner was turned and there was the monastery, with its great chorten; beyond, the wind-torn but still impenetrable mists behind which, we knew, was Mount Everest.

Rongbuk must be one of the highest permanently inhabited places in the world. It stands at well over 16,000 feet and is occupied, summer and winter, by more than 300 monks, whose maintenance must seriously tax the resources of the surrounding country. Still farther up the valley, along the steep-sided moraine shelves from which the place obtains its name, are a nunnery and some primitive cells where hermits pass a life of meditation in circumstances of hardship which baffle the imagination. It is sacred ground, and tradition has it that animals and birds have found sanctuary here for centuries past.

The head Lama of the Rongbuk monastery is a man of great influence and reputation; and his blessing is eagerly sought, not only by the Tibetans of this region, but also by the Sherpas of Sola Khombu, four marches away over the Nangpa La, in Nepal. It was important to secure this for our men. Karma Paul, radiating Buddhistic fervour, hastened off to crave audience, while we pitched camp in a howling wind which blew straight off the snows. The expedition arrived in good health, but that wind found us out. In the afternoon the mists were driven off, and Mount Everest, sixteen miles away, stood forth in compelling majesty. Climbers and porters crowded round the big telescope, heedless of the gale. The result was a num-
ber of chills, some of which were to have more serious results, but for the moment all was animation and delight. Karma Paul returned full of cheer. He had arranged everything, and the great Lama would bless the expedition in the morning. We settled down with the feeling that all was well and the omens propitious. The ponies were taken away down to Tashidzom for their well-earned rest. The transport animals would see us right through to the Base Camp.

Our moment of arrival was fortunate. Till recently the old Lama had been in retreat, engaged in meditation and therefore unapproachable. He was now free again and, though sorrowing for the death of a beloved sister, was prepared to bless the men whom a strange madness had brought for the fourth time to Mount Everest. The porters were paraded in their best, and each man was given a rupee for an offering. Armed with a despatch-case, bandalasta ware, kincob brocade and scarves, we set off in close order for the monastery. The Lama awaited us upstairs, in a curious little shed with real glass windows. Glass is very rarely seen in Tibetan houses. He has a most attractive smile, and an air of great authority. One had only to observe the demeanour of his monks to realise that here was a man completely master in his own house. He asked if there were any members of previous expeditions, so Crawford and Shebbeare were introduced. Then he wanted to know—they always do—if I were related to General Bruce; also my age and status. He told me to be very careful and to allow no killing of animals or birds in the Rongbuk valley, and to treat his people well. Then he promised to pray for us.

After this, presents were exchanged, his consisting of various foods, and the blessing ceremony began. Each of us advanced in turn, put his head in at a glass window and was touched with the dorje and blessed. The old gentleman asked us Eu-
ropeans to recite the mystic words "Om mani padme hum" (Oh, the jewel in the lotus), and chuckled with delight when Smythe's pronunciation failed him. We fell completely under his charm. Then followed Karma Paul, the Gurkha N.C.O.s, the sardars and porters. It was an impressive little ceremony, perhaps less formal than the blessing at Darjeeling, but sincere and evidently regarded as a great privilege by men already in the shadow of danger and privation. Afterwards the Lama consented pleasantly to come out into the open and be photographed. For all his dignity, he is very human and a good friend.

The expedition now set out in high spirits for the last four miles to the Base Camp. The weather was perfect. Clambering over the debris of the old moraines, past the nunnery and the hermits' cells, we crossed the ice of a frozen lake and camped at the foot of a terminal moraine, the same place as had been selected by our predecessors. Perhaps a mile to the south was the snout of the main Rongbuk glacier; above, on the left, the shelf along which we must proceed to Camp I, in the side valley to the east. The mountain, though still twelve miles away, looked enormous, completely dwarfing the North Peak, which is 24,730 feet high.

By this time the men were well drilled in their duties. After a quick survey of the ground, they had the tents up like magic, the mess tent and Whymper's for the climbers, bell tents and Meades for the rest. Tenchadder spread a great black yurt for his kitchen and stacked the firewood and yak-dung within easy reach, while the Tibetans built sangars (stone shelters). The boxes were quickly arranged in ordered rows. Then the baggage animals and drivers, with the unsolicited assistance of Police-ie, were off down the valley, leaving us to ourselves. It was Easter Monday, April 17th. The long march was over.
CHAPTER FIVE

The Lower Camps

A certain feeling of optimism was in the air. The weather looked good, the mountain almost free from snow. The Base Camp had been established twelve days earlier than in 1924. The party seemed fit and well, apart from throat trouble. But optimism appears to have but a short life on Everest. Though all hands got to work with enthusiasm, it was soon apparent that some would have to go on the sick list. Crawford was looking wretched, in spite of his protestations. He was suffering from bronchitis, aggravated by oxygen-lack. Wyn Harris's temperature began to rise alarmingly. His illness was diagnosed as influenza, an abominable thing to get at this altitude; and he was packed off to bed. Wager had diarrhoea, the result perhaps of that cold wind at Rongbuk; and Thompson's heart was suspect. However, we could not expect a permanently clean bill of health, and the invalids were determined to get well without delay. It was quite impossible to persuade them to rest. Wyn Harris, for example, toiled incessantly at accounts except when he was actually on the mountain. In his spare time he contrived to make some experiments in the combustion of kerosene in Primus stoves at high altitudes. Greene, himself a hard worker, found these so-called invalids a pretty handful.
THE LOWER CAMPS

According to plan, the glacier camps were to be established slowly. Each must be fully stocked before a further advance, so that, should bad weather arrive, it could be held. To allow for adequate acclimatisation of both porters and climbers, at least four days would be spent at each. The porters now came on to the ration strength, receiving an ample and carefully thought-out diet, which they appreciated. To save them as much as possible for the work higher up, arrangements had been made with the Chonzay from Shekar Dzong to employ local Tibetan labour up to Camp II; and Nima Dorje had been sent on ahead from Shekar Dzong to Sola Khombu to collect more Sherpas. Soon men and women began to assemble from distant villages. Whatever our own acclimatisation scheme, it was important to set them to work at once, as this was the ploughing season in Tibet and they were apt to slip away to their homes without notice given. It would do the climbers no harm to prospect the way, provided they returned for the night. So the first fatigue party, Shebbeare, Longland, Shipton, Birnie, Boustead, Wood-Johnson and Brocklebank, took a large number of porters and Tibetans to Camp I, 17,700 feet, on the 19th, and were back in time for tea. They reported that the old sangars of the 1922 and 1924 expeditions were still in position, and that the site was excellent; but that even yaks could not have made the journey, as a landslide at the corner of the side valley had broken through the great shelf above the glacier.

Meanwhile Smythe and I had a great field day with stores. Greene was busy laying out sanitary lines, and both he and McLean attended to the invalids.

In the evening we perched the big telescope on the old moraine heap behind and south of the Base Camp, and examined the mountain in detail. It may be useful here to give a fairly full description of its features.
The summit of Mount Everest, 29,002 feet, looked at from the north is a triangular pyramid, resting on the western end of the structure. From this, a great arête or ridge runs down to the north-west at a considerable angle. It is perhaps not completely unclimbable, but Mallory examined it in 1921 and formed the opinion that, if an easier way existed, it would be preferable. The ridge is exposed to the west wind, and great difficulty would be experienced in getting porters and camps up it.

To the north-east descends a still longer arête, falling at a much easier angle for a distance of about two-thirds of a mile to a shoulder, beyond which it drops steeply to the Rapiu La on the east. On this arête, between the summit and the shoulder, are the first and second steps to which reference has so often been made. They are formed by the ends of two horizontal bands of a dark-grey limestone rock, which run westwards across the face of the mountain and constitute the chief climbing difficulty.

Just below the shoulder, a blunt ridge descends to the north, at an average angle of between 35 and 40 degrees, to the Chang La or North Col, a narrow neck of ice connecting Mount Everest with the North Peak.

Near the upper, western end of the north-east arête, at the eastern foot of the final pyramid, is a great snow couloir or gully. This is crossed high up by the two dark bands of rock above mentioned. At this point they are still continuous and precipitous; but slightly to the west, where they emerge on to the north face of the pyramid, they are a little broken, and it is here only that followers of Norton's route, after traversing a few hundred feet below the crest of the north-east arête and below the two steps, and after crossing the great couloir, may hope to storm the defences and ascend towards the summit.
Mallory preferred to take to the crest of the north-east arête and pursue it westwards, whatever the difficulties of the steps. Many mountaineers prefer the crest of a ridge to the traverse of a mountain face; but circumstances alter cases, and it may well be that the second step, in particular, is utterly unclimbable. Could it be climbed or turned, the ridge beyond it, and the final pyramid, do not look too difficult. That the arête is for the most part very narrow was shown by a photograph which Air-Commodore P. F. M. Fellowes, leader of the Houston Mount Everest flight, most kindly sent me. I should like to add here that the members of that expedition co-operated with us in so generous a spirit that it was a particular pleasure to congratulate them on the brilliant success of their brave exploit.

The north face of the mountain, of which the top edge is the north-east arête, is composed of a series of highly altered limestones, mostly of a grey colour. The strata dip northwards at an angle of, for the most part, 35 degrees, but just below the lower of the two dark bands there is a stratum of yellowish limestone, about 1,000 feet thick, which forms a very marked feature. This is a good deal steeper than anything except the dark bands, but is fortunately composed of a rougher kind of rock weathered into narrow ledges and offering better support to the feet.

The general outward, downward dip of the strata produces an effect like the tiles on a steep roof, with the result that handholds and belays are practically non-existent, and careful, balanced climbing is necessary. A slip is likely to have fatal results. The upper western wall of the great couloir will always be dangerous to negotiate, for the dip of the slabs increases here. When powder snow lies on them to any depth, they are impassable.
The eastern slopes of the North Col are formed by what is, in fact, a steeply falling glacier. This presents the first serious obstacle. The place looks, from the east, like an almost vertical wall of snow and ice, some 1,200 feet high, seamed by crevasses and broken into great ice-cliffs. As the glacier is continually on the move, these features change from year to year, and each expedition has been obliged to choose its own route of ascent. Below, the East Rongbuk glacier runs first east, then north, then west, on its way towards the main Rongbuk glacier and the Base Camp.

Such was the mountain we were now to tackle. But illness was first to cause further delay. Ondi, one of our strongest porters, went down with double-pneumonia, a disease serious enough at all times, but terribly so at the altitude of the Base Camp, 16,800 feet. He was promptly put to bed in a Meade tent, given a continuous oxygen supply, and watched all night by climbers and porters. Greene and McLean soon decided that this was not enough, and that if his life were to be saved he must be carried down to a lower altitude, in the Kharta valley, five marches away. It was a last hope, for his condition was very serious. Poor Crawford, whose bronchitis also made a descent advisable, was detailed to take charge of a small body of Tibetan carriers. It was a bitter disappointment for him, but he rose to the occasion. Ondi was carried off one fine morning, giving a pathetic salute of the hand as he went, and McLean accompanied the party as far as Rongbuk.

The subsequent story of Ondi is worth recording, as an illustration of Sherpa spirit. When he left us, his life was despaired of. Just four weeks later, and against all orders, he turned up at the Base Camp, a heavy load on his back, and demanded work on the mountain. He is one of those rough characters, a
sore trial to lovers of the quiet life, but a real thruster in time of storm and stress. Ondi is liable at any time to fall foul of the Darjeeling police. To us, he will always be the stout fellow who, scorning the ease of a convalescent camp, set an example of courage and devotion to duty. On the very day on which he collapsed he had carried a load to Camp I without complaint.

Thompson and Smijth-Windham were putting in a terrific amount of work on their wireless equipment. It was all new to them, and much of it could not be unpacked on the march. They set up two wireless masts and a wind generator, assembled with much profanity their petrol engine, and fitted up a "wireless room" in a tent, complete with receiver, transmitter, Creed machine, and all necessary tools. They were ready for action on the very day which they had promised, April 20th, but had to wait some time, in a state of incandescence, before Darjeeling picked them up. At the moment when contact was actually made, Smijth-Windham was on his way to prospect for a new site less screened by high ridges, and had to be recalled by signal.

To Havildar-Major Gaggan Singh, the senior Gurkha non-commissioned officer, fell the humdrum but responsible task of looking after the money-chests at the Base Camp. Karma Paul stayed with him, having plenty to do with the daily routine of the camp, arranging with the Chonzay for supplies of firewood, meat, eggs and potatoes, and forwarding mails as they arrived up or down the line. Lachman Singh and Bahadur Gurung were employed in establishing and running the glacier camps, where their steadiness, capacity and tact with the porters were of untold value.

Camp I was in full occupation by April 21st, when Smythe,
Shipton, Longland, Birnie, Boustead and Wood-Johnson slept there for the first time. The weather showed signs of deterioration, but we were determined not to be driven into a policy of haste. It would be illogical to vary our scheme of acclimatisation. To outrun it would simply mean reverses later on. If really bad weather set in, we must ride it out, in whichever camp we happened to be. Excessive strain at this stage could only detract from conditions higher up.

Greene, Brocklebank and I got away from the Base Camp on the 23rd, leaving Shebbeare, McLean, Wager and Wyn Harris. Wager was still worried by his complaint, but said it did not affect his going. Wyn Harris was making a remarkable recovery, though still weak.

Camp I is at a delightful spot about half a mile up the eastern valley, and four hundred yards from the snout of the East Rongbuk glacier. It is sunny, and not greatly exposed to wind; and both we and the porters always liked it, almost wishing we could stay instead of pushing on to the stark wastes beyond. The approach to it is very fine. From the corner where the valley meets the main Rongbuk glacier, one sees across miles of blue seracs the great cirque west of Mount Everest, from which Pumori stands up alone, ivory-coloured, like a tooth of some gigantic tiger. Everest itself is hidden from view by a shoulder of the mountain group which culminates in the North Peak. Eastward lies the rounded, boulder-strewn tongue of the East Rongbuk glacier, grim foreground to the fluted loveliness of the peak beyond; and the northern wall of the valley is a series of red, perpendicular spires, reminiscent of the Dolomites.

The contemplation of such scenery tends to ease the first strain of life at these altitudes. Some relief is needed, for the
adaptation of body and mind to changes of this sort is not achieved easily, however slow the process. Fatigue and oxygen-lack produce inevitable reactions—a critical spirit, assertion in place of discussion, an impatience of compromise; and little differences of outlook assume an exaggerated importance. For the adjustment of all this, there was nothing like an off morning in the sun at Camp I; perhaps the rarity of such an occasion made it the more welcome and beneficial.

The sangars of the 1922 and 1924 expeditions required but little repair. Covered with the outer flies of the Whymper tents, they gave admirable shelter to the Tibetans, who were, however, perfectly content to sit out all night, at over 17,000 feet, behind a large stone. For our part, we had arctics as well as Whympers here.

I do not think that we should have gained much from an earlier arrival, for progress beyond Camp I is difficult enough even in the last week of April. A way has to be found along and between the tumbled moraines of the East Rongbuk glacier, where snowdrifts are a hindrance to laden porters. The hot sun was now doing its best, but Smythe, Wood-Johnson and Bousted, who went up to prospect on the 23rd, reported heavy going. Moraines are anything but a pleasant promenade when deep snow lies between the boulders. However, a trail was gradually being stamped out. It was improved by a second reconnaissance on the 25th, when the old site of Camp II was found and cairns were put up along the tangled moraines, to mark the best way. In perfect weather, Smythe, Shipton, Wood-Johnson and Bousted established Camp II on the 26th, and were followed by Greene, Birnie, Longland, Brocklebank and me on the 27th. Bahadur Gurung was left behind to run Camp I, and accepted his charge in the best spirit. The way
up provides something rather special in the way of boulder-hopping. This, and the increasing altitude, told rather heavily on one or two of the party, but it was refreshing to arrive among the lowest of the great seracs or ice pinnacles which are such a feature of this glacier, and then to turn a corner and see Everest again with its long cloud-banner streaming away to the south-east. Close to camp we met some of the Tibetans descending. They were in the highest good humour, quite unfatigued and delighted to share a few biscuits and sweets with us. Sardines they shied at, but fought for the tins and secreted them about their persons, regardless of the oil.

Camp II lies at a height of about 19,800 feet on the western edge of the East Rongbuk glacier. During the day it is a pleasant place, for it receives plenty of sun and is protected from wind by high ridges of ice descending from a glacier on the west, and by the great seracs of the East Rongbuk. But there is a tremendous fall of temperature when the sun sinks behind the North Peak, and "early to bed" is a good motto. Fifty degrees of frost were our portion on the first night in the camp.

This is an important nerve-centre in the lines of communication, and the best headquarters for the chief transport officer, once the Base Camp has been fully organised. Here the regular porter corps finally takes over from the local labour for the more difficult carries to Camp III and above. Accommodation is needed for at least forty men. Stores have to be very carefully sorted, and placed in charge of a picked man, who will forward them as occasion arises. Lachman Singh, our second N.C.O., did this work to perfection.

From now on, the character of the going changes completely. The seracs of the East Rongbuk glacier extend well below Camp II, but there they are flanked by great moraines which
THE LOWER CAMPS

offer a rough but sufficiently obvious highway. The last of these moraines is followed to reach the camp. Above that is a tumbled sea of ice, the tops of the waves being represented by seracs varying in height from fifty to a hundred feet. Farther advance would present great difficulties but for the remarkable phenomenon of two troughs which descend from the upper reaches of the glacier. Once these troughs are reached, they provide an easy and incredibly beautiful path for a distance of over a mile, rising steadily to the level of the upper glacier. The problem is to find a safe way across to them, among seracs and crevasses, and to descend their steep-cut, icy sides. This is best solved by scrambling some distance up the mountain-side behind Camp II, which is composed of abominably loose rock. From here the glacier appears laid out like a chess-board, and the best route can be selected.

Fine weather does not seem to last long in this region. A disturbance approaching from the west covered the glacier in fresh snow, masking the crevasses and rendering progress slow and toilsome. Wading knee-deep in snow at this altitude is not a form of exercise to be recommended.

Perched nearly 2,000 feet up the hillside, Shipton and I, on the 28th, watched Smythe, Boustead and Wood-Johnson set out. They had already reconnoitred from above. The sky was overcast, a bitter wind was blowing snow off the peaks; but we could see the upper glacier and the Rapiu La to the south, and the great cloud-banner flying from Everest. Far below, the three little figures appeared to move incredibly slowly. Passing out of sight behind some enormous ice-pinnacles, they reappeared in the first trough, walked up this for a few hundred yards, found a way through more pinnacles, and emerged on to the open face of the glacier. Here they had to cross at right angles,
Camp IV was established at a height of 22,800 feet, close to the North Col. Heavy snowfalls on the North Col subjected this camp to the constant danger of avalanches.

From Darjeeling to the foot of Mount Everest is a long and arduous journey, during which the heavily laden pack trains climb higher and higher into the Himalayas. This picture shows the Chumbi Valley in spring while the snow is still on the ground.
On the East Rongbuk glacier the expedition traveled for over a mile through a valley flanked on either side by huge escarpments of ice varying in height from fifty to a hundred feet.

In crossing the mountain torrents in Tibet members of the expedition used the primitive native methods.
due east, to reach the medial trough. They were obviously bothered by the masked crevasses, easy enough to see from our point of vantage but not so obvious to the man on the spot. However, Smythe took a very good line and we saw the party descend into the medial trough. A beginning had been made. Red flags were planted in the snow to mark dangerous crevasses, and eventually an ingenious contrivance of packing-case boards, made by Shebbeare, bridged the widest of them. Once the surface-covering of snow was melted and the trail well stamped, porters could easily negotiate this route unescorted and even unroped. They were supplied with crampons to enable them to walk in comfort on the hard ice.

The sole disadvantage of these glacier troughs is the presence of stagnant air which induces an extraordinary and devitalising lassitude, by no means unknown in the Alps. You may be going well on the open glacier and congratulating yourself on your fitness. Five minutes later, in the trough, you can hardly place one foot in front of the other, and discover a marvellous appreciation of the ice scenery, which is of course best observed from a seat on some convenient stone. On comparing notes we think that there was, perhaps, less trouble from this source among us than on previous expeditions; possibly acclimatisation helped, or there was more wind to disperse the stagnant air. But the phenomenon existed. Better going could be found on the open glacier, along the edge of the medial trough, when snow had fallen, melted and re-frozen on the hard, slippery ice, and a good trail could be made. Lachman Singh had a genius for working out routes on his own account.

Photography can give no true picture of the ice scenery of the East Rongbuk glacier. It can but show the outlines and mass of the pinnacles, not their gradations of blue, green and
grey, and their transparent loveliness. Would that some great painter could accompany us to Everest. The least imaginative of mountaineers must feel, as he watches his companions winding in and out among the great ice-towers, that he is in an enchanted land where things undreamt of in his philosophy may occur at any moment. All is silence, save for the murmur of some little glacier stream wandering over the gleaming ice, and the occasional creak of a serac.

The transport problem was giving anxiety. No one had turned up from Sola Khombu; indeed, a message from Nima Dorje stated that a heavy fall of snow had closed the passes and that he had not even been able to get over into Nepal. Our local Tibetans gradually dwindled as the ploughing season of the country demanded their presence at home. Our own porters responded nobly to the call. So far they had been very lightly laden, and brought up the glacier as slowly as the climbers. There is not much amusement to be had in Everest camps except the sport of gambling, and they seemed positively to welcome an invitation to work. Parties were formed, and each party carried loads two days running and rested on the third, subject, of course, to the vagaries of the weather. Our ambition was to stock Camp III so completely that we should be practically independent of the Base Camp and able to victual the higher camps as required with a minimum of delay. In furtherance of this plan, the route from the Base Camp to Camp II became a scene of intense activity.

Meanwhile the climbers were prospecting the way to Camp III, much hindered by afternoon storms. The mornings were usually fine, and a party would make excellent progress up to the head of the trough. They would then emerge on to the open upper glacier, to be instantly pounced upon by wind and snow.
Three such reconnaissances were turned back, and it was not till May 2nd that Smythe, Shipton, Birnie, Longland, Boustead and Wood-Johnson, with a strong body of porters, were able to force their way up the glacier and definitely establish Camp III on the old site under the eastern shoulder of the North Peak, at a little over 21,000 feet. They pitched an arctic tent, a bell tent and some Meades, retained a few porters to help to run the camp, and sent the rest down at once. It had been a rough afternoon, and I noticed that the men seemed tired on their return. They could be rested now, for Camp III had four days' supplies in hand.

Meanwhile Wyn Harris and Wager came up to Camp II, after duly spending four days at Camp I according to their bond. The former seemed to have forgotten that such a thing as influenza existed, and the latter evidently considered any reference to his complaint as slightly indelicate. Shebbeare joined us on the 3rd, almost speechless with pharyngitis and, as usual, carrying too heavy a rucksack; and McLean arrived on the 4th with news that Ondi was out of danger and that Crawford had come up to Camp I from the Kharta valley, much better but unlikely to go high. There was still no more news from Nima Dorje.

Heavy snow had fallen on the glacier. The most one could do was to ask Greene, Wager and Brocklebank to remake the trail between the two troughs, a heavy, exhausting job.

On the evening of the 4th Wood-Johnson tramped in cheerfully from Camp III, accompanied by the stolid old Nima Tendrup. For much of the distance they had been up to their knees in snow, but they were in high spirits. At this period Wood-Johnson was going extraordinarily well, and was working like a Trojan in his capacity as second transport officer.
Everything pointed to his going high when the time came. He brought news of various requirements to make Camp III a home from home, and reported that Smythe, Shipton and Boustead had already been about one-third of the way up the North Col slopes. A letter from Smythe described these slopes in some detail. They had evidently changed very much since 1924, and Smythe thought we were in for a pretty difficult bit of mountaineering, of somewhere near the standard of the Col de la Brenva.

It was now time to make Camp III justify its existence as an advanced base. A cold wind was blowing on the morning of May 5th, but Greene, Wood-Johnson, Brocklebank and I started with forty-five porters now well rested and full of zeal. Among the loads were two more arctic tents. Wyn Harris and Wager had yet another day’s acclimatisation to put in at Camp II, according to my calculations if not to theirs. The trail across the glacier was a great help, but there was much new snow in the medial trough, and Greene and Wood-Johnson had a heavy task breaking out at the head on to the open glacier. Here the wind and flying snow were, to say the least of it, disconcerting. The porters, a little tired from ploughing through the drifts of the trough, hesitated. It was a moment when the “old soldier” may try to sound the retreat. One or two did so. Fortunately Brocklebank noticed this; a few words indicative of pained surprise, a call to the younger men that this was all in the day’s work, and they leapt into the lead. The moment of hesitation was over. Greene, Wood-Johnson and Brocklebank went on to keep the leading porters in action, while I whipped in (only metaphorically speaking) the “old soldiers” and the few new hands who were beginning to feel the altitude. Brocklebank dropped back to help as the blunt corner of the North Peak was reached, and the men rallied for a spurt into camp. Tired
as they were, at 21,000 feet, they burst into breathless snatches of song as the shining wall of the North Col and the long slopes of the north arête rose into view. All thought of retreat had vanished. They had won through, and were proud to be there.

New scenery and new conditions are observed at Camp III. Hitherto the North Peak has masked all but the upper reaches of Mount Everest, throwing out a long buttress which keeps the secret of the remainder till almost the last moment of approach up the seemingly endless though easy slopes of the glacier. The transition is perhaps more abrupt than would be expected from the map, probably because most men come up those last slopes with heads down and senses dulled by altitude. Then, suddenly, they find themselves looking steeply up at the huge north-east shoulder, 6,000 feet of striated slab and avalanche-swept couloir, beyond which, on the right, is a white rock-strewn cone flying a long pennant of cloud and snow far across Nepal. It is the summit. The foot of that shoulder is only a mile away. At long last, Mount Everest is tangible, no longer the fabric of dreams and visions.

Men only a short distance away look incredibly small on the broad expanse of the glacier. The Lhakpa La, over which Mallory and his companions came to discovery in 1921, looks down from the left. In front a long, fluted, narrow arête falls from the north-east shoulder to the Rapiu La, beyond which are Makalu and Chomo Lönzo. To the right the north ridge, hiding the north face, drops to 23,000 feet at the North Col, from which another ridge springs steeply to the North Peak and sweeps grandly round to the buttress under which Camp III stands huddled among the moraine boulders; one of the bleakest places in the world, the sport of gale and blizzard, but our headquarters for nearly two months.
It takes some time to adjust one's sense of scale. The summit of Mount Everest, 8,000 feet above, looks quite near. Only careful inspection with a telescope reveals that that apparent patch of fine scree, at the foot of the final pyramid, consists in reality of boulders some fifteen feet high. But the North Col, a mile and a half away, looks substantial enough, and we know that its crest rises nearly 2,000 feet above us. It is the first serious mountain problem, matter for anxious discussion since the expedition started; for a steep glacier ice-fall is always on the move, and the negotiable route of one year may be seamed by crevasses or barred by ice-cliffs the next. Danger is always present. In 1921 the snow on a traverse near the Col peeled off the ice after Mallory's party had crossed it. In 1922, on the fatal day of June 7th, an avalanche carried away both climbers and porters and killed seven men. In 1924, safety was only secured by a sensational détour to the right, or north, involving the ascent of an almost vertical ice-chimney.

Clearly we must work out a route for ourselves, as a comparison of the photographs taken by previous expeditions with what we now see shows that the slopes have changed considerably. In place of the 1924 route there is a shining slope of ice, at the foot of which are the tumbled debris of many an avalanche. It would take weeks to cut steps up this slope, and climbers would be in constant danger from the overhanging masses above. To the south, a whole series of ice-cliffs rise one above the other—clean-cut precipices or great bulges which no human being could surmount. The only way seems to lie in the general direction of the 1922 ascent; the details have altered, but the risk of avalanche remains and must simply be faced. About one third of the way up, a great crevasse splits the face horizontally. This will at least protect parties working on the lower section, by engulfing avalanches falling from
above. Unless it is well bridged by snow it will be difficult to cross; and the approach to it is obviously steep. Beyond, the slopes ease off a little but soon steepen again, by way of a winter avalanche cone, towards an ice-cliff which must be taken by frontal assault, for there is no way round it. Fortunately the cone touches this wall at its lowest point, but the very existence of the cone shows that there is a shallow funnel for avalanches from above. The wall itself is at least forty feet high and appears vertical. Can any mountaineer cut steps up it, at an altitude of 22,500 feet? Above, slopes at a considerable angle lead up to what looks like a little shelf under an ice-cliff, some 200 feet below the crest and 200 yards to the north of the Col itself. Can this be the shelf used by the 1922 and 1924 expeditions for Camp IV, now carried down 200 feet by slow glacier movement? Other shelf there is none.

One thing is clear: we have no alternative. A way must be forced up this route, and a certain amount of risk is all in the game. We have plenty of ice-craft in the party, sufficient to overcome the physical difficulties of ascent. For the rest, we must rely upon our combined experience to judge where and when the snow is safe. Ascent is generally more dangerous than descent. A party descending can, like the Bavarians on Kangchenjunga, send on ahead a man or two, securely held on the rope from above, to stamp about and deliberately cause bad snow to avalanche, and then follow, cutting steps downwards in the avalanche track. This will be less easy on the wide face of the North Col than on the narrow Kangchenjunga arêtes, for more weight will be required to start an avalanche. But it can be done.

The general angle of the slopes is sufficiently steep to require step-cutting nearly all the way; and to secure the safety of laden porters it will be necessary to fix ropes from a point about
200 feet above the level glacier up to the great crevasse, and again from the foot of the avalanche cone right up to the crest. On the ice-wall itself, one of the three rope ladders presented to the expedition by the Yorkshire Ramblers' Club will be used.

If we fail to make this ascent, much time will be lost. We shall be obliged to evacuate Camps II and IV and go back to Camp I, ascend the main Rongbuk glacier to its head and attempt to reach the North Col from the west. Mallory's refusal of this route in 1921 is a sufficient indication of its difficulty. It is considerably longer and steeper than the eastern side, and is much exposed to wind and to stone-fall.

The work of establishing Camp IV would obviously take a lighter toll of the party if it could be shared. We now had plenty of man-power, for Wyn Harris and Wager, after an impatient rest at Camp II, fought their way through a gale to Camp III on the 6th, making our number up to eleven. Working parties were therefore organised on the principle that each member should lead and cut steps for about twenty minutes at a stretch, while his companions drove in stakes and fixed ropes. To save time and energy, an arctic tent and some Meades were to be pushed up to the foot of the North Col, just out of reach of possible avalanches, to form Camp IIIa. The parties would occupy this camp till Camp IV was fully established.

The sardar Nursang, though by no means in his first youth, was perfectly prepared to stay there as long as was necessary, to look after tents and equipment, and do all the cooking. He stuck it out, in bad conditions, from May 8th till June 4th.

There was a look of wind in the sky on the morning of May 7th. But the sun shone brightly as Smythe, Shipton, Birnie, Boustead, Longland and I set forth from Camp III to prospect a site for Camp IIIa and to examine the slopes above. The first part of the way lay over moraine boulders and presented no
difficulty. The last half mile or so was over the ice at the head of the glacier, not very steep but terribly hard and glassy where the wind had stripped it of snow. Here I had reason to con-
gratulate myself for having brought my crampons, which en-
abled me to walk with ease on a surface which exacted much carefull, though not always successful, balancing from others.
Shipton, in a pair of brand-new climbing boots, the nails of
which bit well into the ice, was the least affected. But then I believe he could retain his balance on almost any surface, in any foot-gear.

We crossed a few narrow crevasses where soft snow had
collected but made a very insecure bridge, and then the wind swept down upon us, apparently from all directions at once. You would at least expect protection from the great wall on the west, but the wind makes little of this. It rushes over the North Col and descends, accompanied by all the loose snow in the neighbourhood, vertically upon your head. Meanwhile other currents, sweeping up the East Rongbuk glacier and coasting along the flanks of the North Peak, drive fresh snow hori-
zontally across the ice, so that sometimes you see "men as trees walking," their legs completely hidden.

On a morning such as this very little could be done. The flying snow reduced visibility to a few yards, and the cold was intense. We marked a site for the camp and dumped there a load of rope and pitons brought up by Nima Tendrup, who remarked in the most casual manner that he might get frost-
bite if we stayed much longer.

Up to now our portion had been fine weather in the early mornings, followed invariably by gales which lasted well into the night. From now on we frequently had bad weather in the mornings also; and throughout this part of the operations on the mountain my diary does not record one single day which
remained fine throughout. It was just a question of degree. So long as the wind and snow were at all tolerable, and the condition of the slopes reasonably safe, the work was pushed on. One must expect a good deal of this sort of thing on any high mountain, and both climbers and porters accepted the conditions in a fine spirit; but I venture to think that they had more than a fair share of hardship.

The work was undertaken by Smythe, Shipton, Greene, Longland, Wyn Harris, Wager and Boustead. Some idea of the difficulties may be conveyed by the statement that the making of the route, up less than 1,000 feet of snow and ice to the ledge, took from May 8th till May 15th. Parties would set out in the early morning—fortunately the slopes face east and catch the rising sun—and cut steps and fix ropes for some hours. They would then be chased down by a rising gale and spend the rest of the day in the arctic tent, while the snow filled every step they had made. True, a good kick with a boot would remake these steps next morning, but it was all so much extra labour, and economy of effort was desirable at those altitudes. Moreover, the utmost attention had to be paid, each several day, to the condition of the snow. Wind-slab might form, or a current of warmer air from the south make the slopes alive with avalanches. Himalayan experience was valuable, for Alpine analogy does not always hold good. There is ever something new to be learnt about snow. Perhaps winter Alpine conditions afford the nearest parallel to ours; even they are less complicated than the effects produced by our very cold nights (53 degrees of frost at Camp III), violent winds and strong sun. With the tragedy of 1922 in our minds, and working along almost the same route, we could afford to make no mistake.

Shipton, Smythe, Greene and Longland established Camp IIIa and made some progress towards the great crevasse on
the 8th, but prudently turned on encountering bad snow. On the descent, Greene and Longland light-heartedly glissaded down the lower slopes. Greene's luck was out; he struck a patch of ice and strained a stomach muscle in the resultant tumble. A storm raged all through that night and continued on the 9th, preventing effective resumption of work, though Wyn Harris and Wager reached Camp IIIa. Nobody who has lived there loves the place; the conditions were too uniformly vile. Even the strong arctic tent at last failed to stand up to them, for during the particularly boisterous night of the 17th a sudden gust cracked one of the struts. Greene and Wager volunteered to effect a temporary repair which would prevent a complete collapse, and spent a hectic half-hour in the open. Two Meade tents were blown down, to the extreme discomfort of their occupants.

Though the majority of the party were keeping their form, the strain was telling. Longland was overworking himself; Brocklebank, still lacking acclimatisation, was obliged to leave Camp III for a rest at Camp II on the 8th, but he was back again on the 12th with Crawford, who had left Ondi convalescent in the Kharta valley and had defied McLean to keep him down at Camp I. Shebbeare at this time was not at all fit, and much of the transport work fell upon Wood-Johnson, who made a most gallant effort to conceal his growing illness from us. But a gastric ulcer cannot be long ignored, and Wood-Johnson's days at Camp III were already numbered.

Nothing could stop the advance party. Smythe and Shipton actually reached the ice ledge on the 12th, after Smythe had made a tremendous effort on the ice-wall, where he put the experience gained with the Kangchenjunga expedition of 1930 to good use. The wall overhangs slightly in its lower section. Supported by Shipton with the head of an axe, he drove an
ice-piton in as high up as he could reach, cut foot- and hand-holds in the hard ice, and contributed to get one foot on to the piton. It promptly slipped off, and he only just saved himself from falling backwards. Most of the cutting had to be done with the axe held in one hand while the other hand clung to a slippery hold—a form of exercise far from exhilarating at 22,500 feet. But he persevered, well backed up by Shipton, cut the remaining steps up the vertical section, and was at last able to hammer in a large steel piton at a point where the ice begins to slope back. The crucial passage was made. The rope ladder was hauled up and fixed to the piton next day by Longland and Wager. Smythe and Shipton cut steps up to the ice ledge and returned, letting themselves down the wall by a rope running round the piton. Altogether it was a fine effort of ice-craft, which evoked a sincere recognition. Bad weather alone prevented the establishment of Camp IV till the 15th, by which time Birnie had taken his little gang of fifteen specially selected porters up the glacier, ready for work.

Greene insisted upon my going down to Camp II on the 13th to see if milder temperatures would do something for my throat. There I had the immense satisfaction of seeing the much-maligned Nima Dorje come in, accompanied by forty-six splendid fellows from Sola Khombu. It was hard to realise that these were the kith and kin of our Sherpa porters, for they wore Tibetan dress, down to the thick-soled, woollen boots. They had come straight through from the Base Camp without a pause, superbly indifferent to altitude and the rough moraines. I have never seen a finer body of men. As to shelter for the night, anything would do. After a merry salute, and with no pause for rest, they fell to upon the moraine boulders, rolling them into position to make sangars. A few outer flies from Whymper tents were stretched overhead, and soon the smoke
began to rise from the few sticks of firewood they had brought up; the tsampa was cooking in the pots; song and laughter proceeded from every sangar, and the whack of the dice-box on its leathern pad, banged down by each successive man with a shout of optimistic import, showed that all was well and that Sola Khombu was thoroughly at home. Would they carry up to Camp III? Of course they would, and higher. Among them was Narbu Yishe, the "purana miles" (Urdu-Latin for old soldier) of 1924. He looked fit and strong, but his Falstaffian mode of life had told on even his constitution and, after a few carries, he faded away, as old soldiers should. These men solved the transport problem. We gave them what spare boots we could, though they were always ready to tackle the glacier in their anything but waterproof gear. They were a grand lot, impervious to cold and fatigue, and apparently unaffected by any superstitious dread of the mountain.

Smijth-Windham took advantage of their arrival to act upon his own account and bring up an advance wireless receiving and transmitting station at exactly the right time. Less welcome was a message he brought up from the Base Camp that the Alipore Observatory had reported signs of an approaching monsoon off the east coast of Ceylon on May 12th. We went up to Camp III together on the 16th, and found that Camp IV, at 22,800 feet, had been established by Smythe, Shipton, Wyn Harris, Birnie and Boustead the day before, leaving Greene, Wager and Longland in support at IIIa. Crawford and Brocklebank, both now recovered and acclimatising well, joined the latter.

Yet another storm put an end to all work till the 20th. This time, I thought that the arctic tent at Camp III really would go. The wind shook and tore at it, the struts creaked ominously, a guy rope pulled away from its retaining boulder. Still
the tent, though sagging drunkenly to one side, stood its ground. Inside, we lay in our “flea-bags” and hoped for the best, listening to the crash of the stones wrenched by the gale from the ridges of the North Peak. A convenient trough of snow at the side of the camp prevented them from reaching us. The now empty Meades held their own, well ballasted with stones. The porters were entirely unimpressed, and made merry in their bell tent. In the occasional lulls we could hear the roar of the Primus, and their never-ending talk. Not once did they fail to bring hot tea or soup at the right moment. There would come a yell outside, the tent opening would be hurriedly unlaced, and the faithful Tewang dragged bodily in, accompanied by about a ton of snow. Tewang was one of the Camp V men in 1924, and was keen to repeat his performance. But malaria claimed him at Yatung, and this year he never got beyond Camp IV. Efficient, completely reliable, and never idle, he performed every office from porter mess-man to nurse, in a manner beyond praise.

This sort of thing went on till the afternoon of the 19th. The great gale of the last few days was obviously due to a western disturbance, and we argued that with any luck at all we should get a few days’ quiet weather before the onset of the monsoon, such as enabled the 1924 party to launch its assaults. Now came the disquieting news, passed on from the Base Camp to our wireless receiver at Camp III, that the monsoon was active in the Bay of Bengal. Still, I thought, the party at the North Col has now had nearly five days’ acclimatisation there. This is just the time to establish the higher camps and go for the summit. The whole thing might be done in three days, though I would prefer a more leisurely advance. So far, there was reason for supposing that the climbers were capable of further acclimatisation, to be obtained by an unhurried estab-
Much of the success of an Everest expedition depends upon the porters. Most of them are chosen from among the Sherpas of Nepal. These men are accustomed to carrying heavy loads in the high Tibetan passes and have thus secured an extraordinary degree of acclimatization to high altitudes.

Camp II was one of the important nerve centers in the lines of communication with the other camps further up the mountain. Here the regular porters specially trained for the high altitudes took over the work of carrying supplies.
The porters on the expedition displayed extraordinary fortitude and felt considerable pride in having been selected to climb Mount Everest. Among the Sherpas, this is a special distinction. This detachment of porters is moving through the left trough. Mount Everest is in the background.
lishment of Camp V, perhaps even of Camp VI. This would be infinitely preferable to rushing the mountain from the North Col.

The wind prevented a heavy deposit of snow on the North Col slopes, and what surface snow there was froze into immobility. A letter from Camp IV asked for full glacier rations, not the special high-altitude rations which, it had been supposed, was all that could be faced at 23,000 feet. As soon as the gale abated, Crawford and Brocklebank began their great series of six ascents and descents of the North Col slopes, revictualling Camp IV and escorting porters. This hard work made the position of the higher party secure. It needed the remaking of the track and sound judgment of the condition of the snow from day to day, and the fact that it was carried through without a single accident reflects the greatest credit on both the skill and the energy of this pair.

All seemed well on the morning of the 20th. The wind had dropped during the night, and a warm sun and clear sky gave every promise that our chance had come. Everybody was on the move; Wood-Johnson and I prepared to go up to Camp IV; some active little dots near the foot of the Col were Greene, Wager, Longland, Crawford and Brocklebank already ascending; and movement could be seen on the ledge. This would be a party setting off to make Camp V. Action at last, and what a relief after the long storm-bound waiting.

At Camp III I soon observed with uneasiness that all was not well. Wood-Johnson, hitherto all fire and energy, seemed listless, even tired and unhappy. For some time past he had confessed to indigestion, but had made light of it. Now, after an hour or two’s work, he proposed delaying our start till the afternoon. If he said that, there must be something seriously wrong. Neither Greene nor McLean was on the spot. It was
finally decided that Smijth-Windham and I should spend the afternoon laying a telephone line to Camp IIIa, taking the third arctic tent with us; that the former should return the same evening, as he could not leave his wireless receiver for long; and that Wood-Johnson, if he felt better, should join me on the morrow for the ascent to Camp IV. Little did we think that poor Wood-Johnson's work on the mountain was finished, and that this strong, tremendously keen climber, on whom I had confidently counted to take part in the final assaults, was suffering from a gastric ulcer. He was game right through, and found his own way down the glacier to McLean and the Base Camp. Up till now he had been one of the strongest of us all, and his illness was a severe blow to the expedition.

Smijth-Windham and I, with four porters, had a busy afternoon laying the insulated double telephone wire to Camp IIIa. As we toiled up the rough moraine, paying out the wire from the drums, it was brought home to us that the monsoon was arriving, at least a fortnight before its proper time. Light clouds came sailing up over the Rapiu La from the south-east; as they reached Mount Everest they met the still powerful western wind currents; were visibly checked, thrown upwards, and blown back to the south along the higher level. A wonderful but ominous spectacle.

For an hour or two before starting, I had watched the North Col party through the big telescope. They seemed to be going well up the edge of the long snow-slope above the Col; but on reaching the rocks at about 24,500 feet they halted, and I was puzzled to see figures traversing over to the eastern side, and wandering about there, instead of continuing farther up the ridge. They had advanced no farther when we left.

Smijth-Windham had departed after tea at Camp IIIa, and the cold shadow of the North Col had fallen across the glacier
when I heard the crunch of boot-nails on the snow outside the arctic tent. It was Crawford and Brocklebank returning from Camp IV, where they had awaited news of the climb. In spite of fine weather, Camp V had not been established. There had been a misunderstanding. The climbing party, consisting of Wyn Harris, Birnie and Boustead, with ten porters, reached the top of the long snow-slope above the North Col, at a height of about 24,500 feet. They were expected to reach at least 25,500 feet, if possible a little more, and to return the same evening: a temporary shortage of porters for the high carries, due to the late arrival of the Sola Khombu contingent, made it impossible to stock Camp V fully on this first day. Wyn Harris wished to proceed accordingly, but was overruled on the ground that the rising wind would exhaust the porters if they went any higher. There was also disagreement as to the exact site for Camp V. Eventually the loads were dumped on the spot and the party descended.

After a windy night, I went up to Camp IV on the 21st, there being clear need to straighten out the position. No time could be lost; the sight of the monsoon clouds massing for a fresh attack from the south was a warning plain to any man. It was decided that a second effort should be made, the very next day, with the definite object of establishing Camp V at not less than 25,500 feet. The party would consist of Wyn Harris (in charge), Greene, Birnie and Boustead. If successful, and if the weather held, the same party would make Camp VI the following day, and Birnie and Boustead would then escort the porters down, remaining in support at Camp V. Twenty porters (more had now come up) carrying about twelve pounds each would go to Camp V, among them eight specially selected men for the carry to Camp VI. Lhakpa Chedi would be of this number; he was tremendously keen to lead the
Sherpas and Bhutias even higher than he had gone in 1924. Wager and Longland would accompany the party to Camp V for purposes of training, returning to the North Col the same evening. Finally, Smythe and Shipton would go up to Camp V, and on to Camp VI, one day behind the others. Thus two assaults could be made on the summit on successive days.

As the ascent to Camp V would involve a climb of at least 2,500 feet, beginning up the very steep upper slopes of the North Col, I was anxious to ascertain the spirit of the porters, and paid a visit to their bell tent. Birnie had selected these men down at Camp III, and had worked out details of loads, equipment and stores. Though the evening was not very cold, the door of the tent was well laced up. But I squeezed in somehow, to find an atmosphere inside which baffles description. On a Primus stove in the middle, in a state of violent eruption, was a large cooking-pot full of tsampa (ground and parched barley). Biscuits and meat and pemmican tins lay around. The men sat about on their sleeping-bags, most of them smoking our best cigarettes. One look at their faces was good enough. They had no doubts about the morrow. One can treat these porters as fellow-mountaineers, and I explained the whole plan to them. They responded at once. "Don’t be anxious. We mean to do our bit and carry those loads as far as we possibly can. You’ll see to-morrow. Then it’s up to the sahibs to climb the mountain.” There was no noisy demonstration, just a quiet statement of fact, and a complete self-confidence. We spent a happy hour together, and then I left them unrolling their sleeping-bags for the night.
The morning of the 22nd was magnificent. There were clouds away to the south, but Mount Everest stood out clear, the great north face was free from snow, and there was little wind. Birnie was delayed for some time, making sure that the men had a really good meal; the rest were off by 7.30, and I accompanied them as far as the North Col. The way led first round a precipitous ice corner, then across a traverse which would need some care if the snow were in soft condition, and straight up a very steep slope of snow lying on ice. Smythe and Shipton, several days before, had cut steps and fixed ropes the whole way to the crest; even so, forty minutes of hard work were needed to reach the North Col. The crest was very narrow this year, requiring some confidence to walk upright along it when the wind was strong. A slight descent on to the North Col itself, keeping well clear of the great snow cornices on the left, and then the ascent of the north ridge begins. Here a snow-slope leads up for about 1,500 feet. It is best to keep to the rocks at its extreme western edge. They are nowhere difficult, whereas the snow is a little too hard and slippery for easy upward movement. It can be used for glissading on the descent, provided that you take good care to keep under full control, able to stop at a moment's notice; for there are two big crevasses which must be avoided.
We were happy that morning. The sun shone brightly, and the wind, even on that most exposed place, the North Col, was gentle and not too cold. The porters scrambled up on to the crest like schoolboys out for a holiday. There was no listlessness, no doubting. The hunt was up. With only twelve to fifteen pounds on his back, the Sherpa porter moves as if on springs. I shook Lhakpa Chedi by the hand and wished him luck. He grinned and said, “I’m not so young as I was, but I mean to reach Camp VI if I can.”

The party wound off in single file up the rocks of the north arête, leaving me to solitary contemplation of one of the most magnificent views it has ever been my luck to see. I remember the long shadows cast by the rising sun as the men moved over the snow of the Col, and the still, dark savagery of the western side, which the light had not yet reached. Above towered the gigantic north face of Mount Everest, the very embodiment of silent strength. At my feet the slopes fell steeply on either side, to the tangled ice of the main and East Rongbuk glaciers. Northward rose the blunt, striated summit of the North Peak, connected with the North Col by an ice-ridge like a gleaming sword-blade. To the west were Pumori and Chö-oyu, a few ragged wisps of cloud floating around their shoulders. Away to the south-east the eye travelled across mile upon mile of lofty ridge and snowy buttress, towards distant Kangchenjunga. Man seemed very insignificant among this tremendous scenery, and very highly privileged to be there at all; yet, as I turned to go cautiously back along the narrow crest, I felt that the little company, now distant specks on that great ridge, were on the threshold of victory.

I returned to Camp IV. Its site was interesting, even sensational. It was, in fact, the lower lip of a crevasse, of which the upper lip rose forty feet in an overhanging cliff of ice and hid from view the steep slopes to the crest. Below, the slopes fell
sharply towards the ice-wall and beyond to the great crevasse and the distant glacier. Movement was, of course, much restricted. The platform, if it can be so described, was hump-backed, perhaps 16 feet wide and 90 feet long. On this were placed two arctic tents, a Meade, and a porters' bell tent, leaving no room for promenade. One step to the right from the door of the arctic tent, and you were on the very edge of the crevasse. Two steps to the left would carry you on to the icy slopes. It was not a place for sleep-walkers. But it had one great advantage—complete protection from the west wind. We thought of Camp IIIa and were content. Cooking was done on Primus stoves, over which ice had to be melted to obtain a water supply. Some altruist would issue from his tent armed with an ice-axe and a rucksack, and would hack away at the serac at one end of the ledge until the rucksack was filled with blocks of ice or until his breath gave out. Meanwhile at the door of the tent his companions would grope about in other rucksacks, to select whatever suited their fancy. At first there was not much variety to choose from. The high-altitude ration, though unexceptionable in vitamin and calory content, was sadly monotonous. Jams, sweets, oatmeal, butter, tinned fruits, cocoa, tea, Ovaltine, Bourn-vita, meat essences, pemmican, pea-flour and Maggi soups, herrings, sardines, condensed milk, biscuit, etc. Most of them excellent in their way; but we were well acclimatised, and we craved for more solid diet. As time went on, this was to some extent supplied from below, but on another expedition we should radically change the incidence of our catering.

What a horrible business washing-up can be, in camps where hot water cannot be spared and you have to scrub plates and cups with cold snow. We could shoot all our rubbish into the crevasse, but the contemplation of the aftermath of our meals
was revolting. Still, there was a recurrent pleasure in the sur-
prises sprung upon us by Shipton and Wager, our best chefs;
and some of us managed to brew tolerable porridge and tea.

On this day, May 22nd, the marine telescope was kept very
busy passing from hand to hand as we watched the party climb
the north ridge. They were evidently going very well indeed,
and we actually saw them reach a platform under a great but-
tress and pitch four Meade tents. Then drifting clouds, an
unwelcome visitation from the south-east, hid them from us;
and we had to wait till after 4 p.m., when Da Tsering, followed
by two other porters, came lightly down the long ladder of
steps and strolled into the camp as if nothing had happened.
It was delightful to see the way they took our welcome and
congratulations. Their attitude was: "We said we would do
the carry, and we've done it. That is all there is to be said.
There was no difficulty about it." They seemed quite untired.
Others straggled in, some not quite so fresh, but all in good
spirits save Aila, who had broken down with cramp of the
stomach during the ascent. Longland, with his usual considera-
tion, brought him safely home.

Just as dark was falling, Greene staggered in, to fling himself
down on his sleeping-bag, exhausted. He had reached Camp
V, but at a cost. One day's acclimatisation at Camp IV had not
been enough, and he had strained his heart. When Longland
and I had done what we could for him, he told his story. The
climb had gone well; by one o'clock Camp V had been pitched
at 25,700 feet, perhaps 500 feet higher than in 1924, on an
excellent platform, but of necessity on the very backbone of
the ridge and therefore more exposed to the wind. On the
way, about 300 feet above the end of the great snow-slope, they
passed Finch's camp of 1922. His Meade tent, torn to ribbons,
lay on the ground between two large boulders. The wood and
brass of the tent-poles looked as if they had been made yester-
day. Greene, who had added to his fatigue by encouraging one
or two lagging porters, found several oxygen cylinders lying
around. One had its valve still in perfect order and was full
of oxygen. He sat down and tried it for half a minute. The
result was remarkable; everything around seemed to brighten;
a lost sense of colour returned; for the moment he felt stronger,
and was able to resume the climb.

Greene had also found, a short distance from Finch’s camp,
a tin cylinder containing a roll of Kodak film. He hoped that
this would be of great interest, remembering how Andrée’s
film was successfully developed more than thirty years after
his death in the Arctic. The cylinder was therefore carefully
preserved. But the sealing tape came off when it was brought
down to a lower altitude, and we found that the spool had
never been exposed.

Intent as ever on scientific research, Greene even obtained
some samples of alveolar air at Camp V. But he was in no
condition to stay there. It was decided on the spot, with my
full subsequent concurrence, that Wager, who was climbing
very strongly and had been the first to reach Camp V, should
now join Wyn Harris as climbing companion. The latter was
full of energy; he actually carried up an odd load from the top
of the snow-slope, and seemed none the worse for it. He also
carried, on this and on his subsequent climbs, his cine-camera,
with which he made a remarkable record of the work above
the North Col. It is difficult to appreciate the concentrated
effort required to make a moving picture at such altitudes.

Greene reported that Boustead had done good work en-
couraging and helping the rearguard; and that Birnie, who
made a late start, had arrived safely at Camp V. If the weather
held, an attempt would be made next morning to establish
Camp VI on a patch of snow previously observed from the Base Camp and estimated to be at a height of 27,400 feet. If there was time, and the party was not exhausted, it might even push on to another snow-patch, near the foot of the first step, at a height of about 27,800 feet, and of course still farther westwards. A code of signals had been arranged, so that we could know what the higher party was doing; and we turned in that night with the feeling that a long step forward had been taken.

The luck did not hold. The morning of the 23rd revealed three inches of snow on our ledge at Camp IV, and much cloud about. Here there was no wind, but a westerly gale was visibly shaking the tents up at Camp V. Our close watch with the telescope for the anticipated signal was ineffectual. Wyn Harris and Wager struggled out from their tent to signal "stand fast," but we never saw them or their signal. They told us afterwards that, although they were only out for ten minutes, it took them three hours to restore circulation, so intense was the cold. A look of clearing in the sky, deceptive as it turned out, decided us to carry on with the prearranged plan, and Smythe and Shipton made a late start up the north ridge. Fighting their way up through a powerful wind, they arrived at Camp V by 4 p.m., only to find that no move upwards had been made and that there was consequently a full house. A quick decision was necessary, for there was not much daylight left. It would have been far better to defer Smythe and Shipton's ascent until communications had been re-established. Wyn Harris and Wager undertook to come down to Camp IV and reascend on the morrow, provided that a signal indicated that Smythe and Shipton were moving on. The rôles of the first and second parties would thus be reversed.

On this afternoon signs of activity were observed below,
and Longland and I went down to the rope ladder to help porters. There we found Brocklebank, who had come up to complete the job of laying the telephone wire right up to Camp IV. He and Smijth-Windham had got it as far as the foot of the ladder the evening before. Brocklebank now carried two drums up the ladder on his back and, with the aid of a porter, went straight on to the ledge, paying out the wire as he went. The line had to be pegged down in the snow a little distance to one side of the steps, to save it from damage—a task not altogether free from danger. It was a great effort, and we were now able to converse directly with Shebbeare at Camp III. At this time Crawford and Brocklebank were putting in an immense amount of work, escorting parties up and down the North Col and keeping the long line of steps in order. I believe that the continual tramping consolidated the track, for during the bad weather that followed it was always negotiable, though we frequently observed dangerous conditions, and even small avalanche tracks, on either side. Now that Greene was temporarily out of action, it was necessary to select a climbing companion for Longland, in case another pair was needed. Crawford and Brocklebank were at Camp IV almost equally acclimatised, and I chose the latter because he was the younger.

There are certain inconveniences attached to success in acclimatising a whole party. I was obliged at this time to return a decided negative to the entreaties of Shebbeare and McLean, who were clamouring to come up from Camp III, for there was already congestion on the ledge. Smijth-Windham had descended with Brocklebank to see about telephone arrangements, and returned the same day. His performance was remarkable in a man who had never before been on a big mountain.

This linking up of Camps III and IV by telephone reminded me of the outside world. I hammered out a despatch, wonder-
ing the while if a typewriter had ever been used at 22,800 feet before. It was not a pleasurable occupation; gloves had to be taken off for the purpose and fingers became very cold and stiff. But it led to an interesting test of our signals organisation. The words of the despatch were telephoned down to Smith-Windham at Camp III. He passed them on by wireless to the Base Camp, where Thompson put them into code and repeated the process to Darjeeling. Mr. Richards and his staff relayed the message by land-line to Calcutta, whence the Statesman cabled it to England. I believe that the Daily Telegraph received it in about six hours in all from Camp IV, allowing for the difference of time between England and Tibet.

Snow fell heavily on the afternoon of the 23rd, and on the 24th the mountain was a terrible sight. A full gale was blowing from the west. There was a sound as of heavy surf beating against the North Col, and great clouds of spindrift came hissing over, powdering the tents and flying off miles to leeward. The north ridge and the face of the mountain were continually blotted from view, in racing mist and snow. A deep drumming sound in the air reminded one of the lower register of a great organ. This was no time for movement up or down. Those at Camp V must ride out the storm as best they could. They had enough food for the present, and the tents were well anchored.

We on the ledge were occupied with a danger which had been foreseen but could hardly be evaded, the danger of avalanche from above. Already, the night before, small masses of snow began to slide off the slopes above our camp. Most of them fell into the depths of the crevasse, but enough landed on or beside the tents to warn us of disaster, should a large mass descend. It is disconcerting, especially at night, to have a few hundredweight of snow fall with a thump close by, and
explode like a shell through the door, covering you with fine drift. Nothing could be done while the storm lasted, for the slopes below could not be descended, except catastrophically, and in any case we must not abandon the rôle of supporters to Camp V. On the afternoon of the 24th Wager and Crawford struggled up to examine the conditions above. They found nearly a foot of new snow on the ice slopes above the ledge. It showed no tendency to slide. Should this happen, Camp IV and its occupants would cease to exist.

On the 25th things looked a little better for the moment. Had the gale blown itself out, and were the high party in any condition to start for Camp VI? No signal could be seen. Whatever happened, we must revictual them. So Wyn Harris, Wager, Crawford, Longland and I, with ten porters, set forth. Feeling that the energy of the younger men should be conserved for the fight above, I proposed to Crawford that he and I should kick out the snow-filled steps up to the crest. Unfortunately he was delayed by cooking operations, and I led off round the ice-corner without waiting, to be duly punished for my presumption. There was an avalanche track across the traverse, but the dangerous-looking new snow held to the underlying ice, though nearly a foot deep in places. Wager had to take over the lead near the crest, for the heavy work of remaking the steps had already almost exhausted me. By the time we reached the North Col, the wind had renewed its energies, and poured over in what seemed one solid stream of cold. No one who has been up the north ridge on a windy day is likely to forget the experience. The rocks are not difficult—indeed, it is rarely necessary to use the hands. But the wind is a torture. It hurts the eyes in spite of protecting goggles. It imprisons the limbs in a grip like that of fast-running icy water, till every step upward is a battle. The fingers of the hand holding the ice-axe
stiffen under the glove and have to be prised open and beaten to restore circulation. Worst of all perhaps is the searing cold of the air drawn into over-driven lungs. Movement becomes almost automatic, though there is a conscious effort to watch the feet of the next ahead and use the same ledges. One tries to remember that there is a job to be done, that it is all in the day's work, that the porters are sticking it without complaint.

Crawford led from the North Col up the ridge to about 24,200 feet, when he considerately halted, in that paralysing wind, to wait for me. I had dropped some distance behind, having not yet fully recovered from my exertions below. About 200 feet higher, Wyn Harris and Wager, who were now leading, met Smythe descending with the news that Camp V was being evacuated. During the temporary lull of the early morning, Boustead had roused the porters and found them willing to make a start. Not for nothing was Lhakpa Chedi there. They made a hasty meal and got the loads ready. But it was frightfully cold, the wind began to rise again, and there was a look of coming storm in the sky. Smythe, Shipton and Birnie, with their Kamet experience, recognised the danger signals. Courage and indifference to hardship are not enough on those pitiless slabs above Camp V. Boustead's cheerful argument that "you can't make an omelette without breaking eggs" could not outweigh the heavy responsibility which lay upon the climbers not to expose those trustful, willing Sherpas and Bhutias to an ordeal beyond the limits of reasonable safety. Three nights of unceasing storm had already taken considerable toll of their strength, and food was running short. An unsuccessful attempt to establish Camp VI would be worse than useless. Better "reculer pour mieux sauter." The word was given for retreat, and the wisdom of this choice was quickly evident. The wind was increasing every minute. Down on the
A steep ice slope on the North Col presented the first serious obstacle to the climbers. Some idea of the difficulties encountered is indicated by the fact that it took eight days to dig a pathway up less than a thousand feet of snow and ice.
The North Col is a narrow ridge of ice connecting Mount Everest with North Peak. The eastern slopes are a steeply falling glacier which forms a vertical wall of snow and ice some twelve hundred feet high, seamed by crevasses and broken by great ice cliffs.
ATTACK ON EVEREST

North Col and on the lower part of the ridge we found it bitter enough; at Camp V it was simply dangerous. The porters were as well clothed as the climbers, and had exactly the same windproof gloves. But those few minutes spent in adjusting the loads, perhaps a few moments when gloves were discarded to tie knots, and so on, played havoc with cold hands. Every man of that picked company of eight porters was more or less frostbitten. Had they attempted to carry to Camp VI, there must have been a disaster. Only one, the great-hearted little Ang Tarke, ever went high again. Poor Lhakpa Chedi lost two fingers, and Pasang one.

The ascending and descending parties met on the snow-slope. It had been intended to carry on to Camp V and restock it. But the frightful wind, and a difficulty about exchange of porters' bedding, made a return together to Camp IV essential, the more so because a complete reorganisation of the assault was necessary. Some kept to the rocks, some to the snow. Birnie, essaying a glissade, nearly came to grief. For one paralysing moment Wyn Harris saw him flying downwards, head first. Then Da Tsering took a dive at him from a rock and the pair came to rest together on a patch of soft snow. Birnie escaped with a strained leg, and Da Tsering regarded his own feat as an occasion for merry laughter, but we knew that tragedy had been very near.

Lhakpa Chedi and one or two others broke down a little on reaching Camp IV, and no wonder. They had had a terrible three days of it, and were suffering much pain. They must obviously descend further without delay. That night—the third night in succession—more little snow avalanches fell upon the ledge. The place was becoming untenable. Stores for which there was no room in the tents were already buried. At any moment a big fall might flatten out the tents, or hurl us down
the great slope. But retreat was not to be thought of. The attack had begun and must be carried through. On the whole face of the North Col there was no other ledge, but on the Col itself room could just be found for two arctic tents to form a new Camp IVa. A frightfully exposed position, but safe from avalanche. First the prevailing congestion must be relieved. One arctic tent would hold the porters detailed for the next effort, the other would suffice for Smythe, Shipton, Wyn Harris, Wager, Longland and Birnie. Boustead’s leave was drawing to a close, and he must descend. With him would go Crawford, Greene, Brocklebank and I, escorting the frost-bitten porters down to Camp III.

We had a busy time on May 26th, arranging all details. Much care would be required on the slopes both above and below the ledge, for the snow lay deep and some of it had already slipped. The climbers took with them the telephone box and had to pay out several hundred more feet of insulated wire. Unfortunately this was not quite long enough, and came to an end about forty yards short of the new Camp IVa. It was secured at a point on the crest, while the box with its batteries was kept reasonably warm in one of the arctic tents. Whenever communication was needed with Camp III, a climber would issue with the box in his arms, make a somewhat difficult ascent to the crest, sit there astride with his feet dangling in space, adjust the terminals with frozen fingers, and try to make himself heard above the wind. As Smythe said, this must be about the airiest telephone booth in the world, at 23,000 feet and with space itself before and behind.

The downward party was much delayed, and did not get off till 4.30 p.m. This at least gave some time for the snow to consolidate in the increasing cold. One porter, Chin-Narbu, though an under-sardar, lost all sense of duty. Even the pros-
pect of a descent did not appeal to him. He put a red sweet into his mouth, chewed it up, and then spat on the snow in a fatuous attempt to convince me that he had some terrible disease of the lungs. Greene and I disillusioned him. Then I had a weary hour's work to persuade Pasang Kikuli (one of our best men) and Kusang to make a move. It was the old story. When the Sherpa once gets into the dumps, he is a sorry inversion of his real self. There was Greene, a really sick man, with heart trouble, prepared to stick it out and even help others on the descent; while Pasang Kikuli, with slight frost-bite, was a mere rag-bag of self-pity. Yet this man a few short days before had been the keenest of the keen, volunteering for the hardest jobs. But I must do justice to another of the many Pasangs. Nothing depressed him. He roared with laughter over his damaged hands, and did much to cheer up his mournful colleagues.

So we started downwards at last, anchoring each step of the way, for we distrusted the slopes. Crawford and Brocklebank were a tower of strength at the top of the ladder, roping up the invalid porters and lowering each man to one or other of us below. It was bitterly cold in the shadow of the great ice-wall, whose grim savagery seemed to be intensified by a short length of rope hanging out from the face; a relic, probably, of the accident of 1922. Everything went well until the great crevasse had been safely crossed. Then the light-hearted Pasang, tired of a painful grip on the fixed ropes, let himself slide. He careered down to a small crevasse, which most fortunately was choked with snow. Pulling himself together, he walked in blissful ignorance, despite our yells, along the whole line of the crevasse back to the ropes. Nothing would convince him that he had been in danger. He laughed, cursed his hands, and practically told us to go to the devil.

Nursang, the sardar at Camp IIIa, now empty of climbers,
revived our spirits with some excellent tea on our way through to Camp III. Alas, there was now no Police-ie to welcome us. She was a general favourite, for she had shown an extraordinary mountaineering enthusiasm. The danger of taking her beyond Camp II, among the crevasses of the glacier, had been realised, and she was many times packed off to the base. But she always found her way up again. She refused to be taken on a lead, and was terrified of tents. She would spend the coldest nights huddled behind a barricade of provision cases, to be found caked with ice and snow in the morning and very stiff. Meat she generally refused, preferring the tsampa to which she was accustomed. Her finest effort was a courageous attempt to climb to Camp IV. She reached the foot of the ice-slope below the great crevasse, at 22,000 feet, going up the long line of steps like a practised mountaineer. But of course really steep ice was too much for her, and nobody was prepared to carry her up. She was always restless and independent, and I very much fear that during a solitary ramble on the glacier she fell through a snowbridge into some crevasse. We missed her shy, almost reluctant friendliness.

The stage was now set for a renewal of the assault; and the crucial period had arrived, for there could be no doubt that the monsoon was upon us. Nothing could be more disconcerting than this weather. Not a day passed without an afternoon gale from the west, yet monsoon clouds were banking up steadily from the south-east, bringing snow. Greene and Boustead left for the Base Camp, the former to recuperate there, the latter homeward-bound. Crawford, Brocklebank, Shebbeare, McLean, Smijth-Windham and I were now responsible for keeping open communications with Camp IVa.

A beautiful morning on the 28th made one hope that a few days’ grace would be allowed us before the monsoon set in in
earnest. Movement was soon observed on the North Col. This was Wyn Harris, Wager, Birnie and Longland going up to re-establish Camp V with twelve freshly selected porters.

The position of the new Camp IVa made the carry to Camp V somewhat easier, as the men were saved the climb up on to the crest from the ledge, which took anything from forty minutes to one hour and was a steep and wearisome beginning to a day’s work. The party made excellent progress on this fine morning, and all except two reached Camp V in under five hours. Birnie, who had strained a leg muscle during his glissade down the snow-slope on May 25th, now had great difficulty in ascending at all. He put up a plucky performance, arriving late in the afternoon. One porter became ill after two hours’ climbing and had to be sent back, though he did his gallant best to refuse. The remaining hours of daylight were devoted to cookery, brewing hot drinks, and filling Thermos flasks ready for next morning’s breakfast.

May 27th dawned very cold, though with a promise of fine weather. A steady, biting wind whistled across the ridge. Now came the real test of the porters. On a similar occasion in 1924 Norton spent himself in a four hours’ argument, persuading his men to start. Nothing of the sort occurred this time. The climbers were up at 5 a.m., and found the eight “tigers” ready and willing. There can be no doubt that these Sherpas and Bhutias have now developed an improved tradition, pride of achievement, standard of possibility. It is a process of psychological evolution, for which the credit must be shared by the men themselves and by the climbers who led them, on previous expeditions no less than on this.

The cold at this early hour was so severe that to start at once would have incurred great risk of frost-bite. No one had had a hot drink, because the flasks had not been equal to keeping their
contents warm through the night. So the men were sent back to their tents to make themselves a fresh brew, and the climb did not begin till 8 a.m.

It was still bitterly cold even then. During the first two hours of the ascent most of the party were slightly frost-bitten, though the effects were not noticeable at the time. Leaving Birnie to his lonely watch, Wyn Harris, Wager and Longland proceeded up the north ridge with their eight companions, who carried about ten pounds each. No time could be lost in view of the late start, and they soon left the ridge to climb as directly as possible towards the first step. This diagonal traverse upwards soon brought them on to the kind of ground where an accident is most likely to occur: downward-sloping, smooth slabs offering no good ledges or holds, evilly smooth and treacherous, where safety depends altogether on balance and the friction of the bootnails. The rope is worse than useless, for if one man slips he will pull the others off with him. In these difficult circumstances the porters showed a steadiness and ability beyond all expectation. They were not just porters, they were mountaineers, at home alike on the slabs and on the occasional patches of hard snow and frozen scree.

Wyn Harris and Wager led the climb, and Longland brought up the rear, lending encouragement and help when necessary. At the end of every fifty minutes a ten-minute halt was called. The men hardly needed it—most of them were up and pressing on the leaders before the signal to start again. And the pace was good; up to a height of 27,000 feet they averaged 400 feet an hour, halts included.

During one rest Longland looked away northwards across the summit of the North Peak and saw, nearly twelve miles away, the Rongbuk monastery, last seen some six weeks before. Pumori, which looks so impressive from near Camp I or even
from the North Col, was now almost insignificant, 4,000 feet below.

At about 27,000 feet the angle of ascent suddenly steepened, for the party had reached the bottom edge of that great band of yellowish limestone, a thousand feet thick, which is so conspicuous a feature of the mountain as seen from the Base Camp. The change was welcome in spite of the steeper nature of the rock, because the treacherous slabs, dipping outwards at an almost uniform angle, gave place to a series of fairly well-defined ledges which gave the appearance, if not indeed the reality, of safer going. By this time the climbers were too much under the cliffs to be able to make absolutely sure of the direction towards the first step, but Wyn Harris adopted a good zigzag route which kept up the pace, prevented straggling, and followed a line of least resistance. It was time to begin looking for a camp site; two or three of the men were at last showing signs of exhaustion, and they must all be seen safely down to the North Col before dark.

Nothing, perhaps, gives a better idea of the general character of the north face of Mount Everest than the statement that over that great expanse of rock it is most difficult to find a single ledge affording room to pitch one little Meade tent, seven feet long by four feet wide; and that no one has yet discovered a platform of such dimensions where the outer edge was not considerably lower than the inner. Yet a tent has to be pitched in such a manner that it will not only refrain from slipping over the edge, but resist the continual efforts of the west wind to blow it off the mountain and down on to the Rongbuk glacier. It will be understood, therefore, that the last half hour or so of the climb was fraught with anxiety for the climbers of the party. The porters, sublimely confident that they were in good hands, struggled gamely on.
At last a point was reached, about half-way up the yellow band, where a fairly pronounced ledge appears to divide the cliff horizontally. It was not a good ledge; nowhere more than three feet wide, it sloped outwards and was clogged with snow. But nothing better could be seen. While Wyn Harris went on some little distance alone to make sure that there was no alternative, the others set to work to scrape away snow and hard scree and even to collect small stones on the outer edge, by way of making the semblance of a level platform. On this they erected the little Burns tent, of Meade pattern, about ten pounds in weight, and anchored it as securely as possible. The floor still sloped precariously, and about a quarter of it projected unsupported over the outward edge. Four sleeping-bags, provisions for three days for four men, a couple of cooking-pots and some "Tommy cookers" completed the furnishing of this modest suite.

The site of this new Camp VI is easily identified. It is some 300 feet below two fairly prominent towers on the north-east ridge, and about 400 yards east of the first step. The height has been judged, by means of the aneroid and the study of scaled photographs, to be 27,400 feet. This is 600 feet higher than Norton's Camp VI of 1924, and about 400 yards horizontally nearer to the summit.

So high was the spirit of the men that they were even willing to try to reach the little snow patch under the first step. But this would have involved at least another two hours' climbing; it was already 1.30 p.m.; and the North Col lay 4,400 feet below. Fortunately the word was given for descent, and Wyn Harris and Wager lost no time in taking possession of the premises, for the cold of a high camp on Everest does not encourage small talk at the front door. Old Kipa Lama, his normal eccentricity much enhanced by altitude, selected this
moment to demand a “chit” or certificate of good conduct. He was promised one of the best if only he would hurry, and was bundled off without ceremony.

Longland took one look at the summit which now seemed so close (perhaps 1,600 feet higher and half a mile away), wished the climbers good luck, and led off along the break in the yellow band, horizontally eastwards. Long ago, when we decided to try to place Camp VI higher than before and away along the north face, a rule had been made that porters making the carry must not be allowed to return unescorted. The rule was now doubly vindicated. Left to themselves, the men would have charged off down the steep slopes by which they had ascended. Fatigue inevitably promotes carelessness, and undermines balance. One or more would probably have slipped and fallen to their death on the glacier thousands of feet below. The morale of the rest would have gone to pieces immediately—such is the almost certain effect of an accident—with only one result, total collapse. Longland knew the danger, and did the right thing. It was imperative to lose no time in finding the north ridge. Once on that, direction-finding would be far easier than on the great indeterminate slabs of the face. He worked his way along to a point where it seemed possible to traverse downwards across scree slopes to the ridge. The ground was steep, and delay occurred in helping the men.

The traverse was made just in time. As the last man cautiously moved over on to the ridge, a furious storm of wind and snow came roaring over from the west. A moment before all had been quiet and peaceful. In a few seconds Nature seemed to go mad. The far horizons vanished as the voice of the wind rose to a scream and the snow tore past in blinding sheets. The effect upon tired men may be imagined. Their world disappeared, their goggles iced up till they had to be discarded,
whereupon their eyelashes froze together, making it very difficult to see at all. They were literally fighting for their lives.

Well for them that they had a great leader and a great mountaineer at their head. Longland never faltered though, to use his own words, "visibility suddenly narrowed to a snow-swept circle of some twenty yards, and—I was taking a party of porters down a ridge which I had never been on before, but which I knew to be ill-defined and easy to lose, particularly in such conditions." He kept his men in close order, and they staggered downwards, leaning sideways against the wind to keep their balance and peering through the storm for a glimpse of the North Peak and the ridge, but seeing nothing beyond the rocks just ahead. Every few minutes they halted to count their numbers, lest someone should be lost or left behind. The men were responding magnificently to example, and not one fell out.

Suddenly, below a little cliff, they came upon a spot of green, Norton’s Camp of 1924, where Mallory and Irvine spent their last night of life and where Odell came in his great effort to find them. The tent was no longer usable after nine years of exposure, yet it looked surprisingly new. The men, much cheered by this discovery, rummaged about and found a folding candle-lantern and a lever-torch. The latter worked at the first touch. Then they hurried on downwards, for to remain still in these conditions meant death. The storm continued relentlessly.

About 200 feet lower down a terrible thought occurred to Longland. He remembered that, in one of the 1924 photographs of Mount Everest as seen from the Base Camp, the position of that year’s Camp VI was marked by an arrow pointing, not to the main north ridge, but to a subsidiary ridge farther to the east. Could it be that he was leading his party straight for the appalling ice-slopes above the East Rongbuk glacier,
instead of down the main ridge to Camps V and IV, and safety? It was a dreadful moment, and the worst of it was that he could see no landmark through the flying snow. But he kept his head and watched for the appearance of a great snow couloir, which he knew must be on the left if he were on the wrong ridge. The anxious descent continued slowly, down little snow-covered cliffs and icy screes, reassured to some extent by the invisibility of the couloir. But it was a painful passage. Some of the more exhausted porters were beginning to sit down, unable to face any longer the torture of the wind. They had to be urged to their feet and encouraged to keep on down that doubtful, perhaps fatal ridge, the problem of which the leader had to keep to himself. At last, over a little edge, and not a hundred feet below, appeared a green tent. It was Camp V. Longland had brought his party safe through a test which even Mount Everest could hardly make more severe. He had not enjoyed one care-free moment for two hours.

Birnie, Smythe and Shipton were ready with the hot drinks now so sorely needed. Two exhausted porters, including poor Kipa, were put to bed at once. The rest moved off slowly downwards, at about 3.45 p.m. Longland followed, after endeavouring, in vain, to persuade Birnie to take a rest down at Camp IVa, and caught up the last and most tired of them just below Finch's camp of 1922. To quote his own words once more, "persuading this man downwards was sufficient task to keep one's mind off one's own condition, and it was not until the little rise leading to Camp IVa, which we reached just before dark, that I realised how near my own limit I had gone." Those simple words convey, better than anything I can write, the feelings of a man who had spent himself to the utmost for his gallant companions.
Crawford and McLean had been sent up to the North Col on the 29th with fresh supplies, kerosene, porters' socks and spare gloves, to remain there in support. They worked hard, preparing hot drinks and food, and putting the exhausted party to bed. They were so successful that next morning the porters were able to reach Camp III in good heart. The other two followed later. Not one was badly frost-bitten or permanently incapacitated. I make no apology for putting on record the names of as gallant a company as ever served an expedition:

Ang Tarke ......................... Sherpa
Da Tsering ......................... Sherpa
Nima Dorje ......................... Sherpa
Ang Tsering ......................... Sherpa
Kipa Lama ......................... Sherpa
Pasang ............................ Bhutia
Tsering Tarke ..................... Bhutia
Rinzing ............................ Bhutia

Longland, tired as he was, refused to leave his post of support on the North Col, and took a considerable share in the exhausting task of telephoning down to Camp III, from the exposed station on the crest of the Col, reports of the progress of the assaulting parties.

So, after a fortnight's struggle, an attacking position had been won in face of serious odds, and two parties were ready, with at least adequate supports, to "go over the top."
All now depended upon the weather. Snow had fallen on the day of the great carry to Camp VI, but the furious wind of the afternoon blew much of it off the slabs. Wyn Harris and Wager were in good form at Camp VI. Smythe and Shipton reached Camp V the same day, and Birnie was staying on there in support. Longland, Crawford and McLean held the North Col. With eight men thus in position, all camps fixed and well stocked, and reserves at Camp III, one felt that everything possible had been done to ensure success.

Camp III was a very unsatisfactory observation post, for Camps IVa, V and VI were hidden from view. The first was just over the brow of the North Col, and the last two were masked by the north ridge. All we could do was to keep the telescope trained on the final pyramid, occasionally switching over to the crest of the North Col in case a telephone operator should appear there, when a concerted rush would be made to the arctic tent and our end of the line.

I was up at 4.30 a.m. on the 30th, to see a curious hat-shaped black cloud covering the summit, while a long white pennant stretched away to the south-east. Elsewhere the sky was clear, with promise of a fine, warm morning. All was still
THE FIRST ASSAULT

around us. Gradually the black cloud dispersed, but the summit was intermittently veiled through the day by slowly circling mists which could do the climbers no harm. In short, the prospect was not unfavourable.

I had the telescope moved over to a slightly better viewpoint on the moraine, and spent several hours there. One never knew when some sudden squall of wind might open a little window in the mists, to disclose the climbers upon those far-off slopes. If the route by the second step "went," we might see them at any moment after ten o'clock.

About that time seven of the "tigers," led by Da Tsering, walked quietly into camp, and told their story without a trace of bravado. They looked amazingly fresh. Only poor Kipa Lama was left behind at the North Col, with McLean trying to restore his scattered wits. He was convinced that he was dead, and a corpse obviously could not make the descent. We gave of our best to the little band and sent them off next day happy and content to the Base Camp.

About 10.30 the indefatigable Longland managed to ring us up from the North Col. From there he had, by means of the marine telescope, seen Wyn Harris and Wager making good progress at about 7 a.m. Our end of the telephone now saw fit to go on strike, and hearing became extremely difficult. Smith-Windham, incorrectly as it turned out, understood Longland to say that the climbers appeared to have worked over to the southern side of the north-east arête. This could only mean that they were trying to turn the second step by way of the steep snow-slope which had been observed from the Base Camp and other places. Before we could verify the impression, our telephone "packed up" altogether, and complete silence reigned till 5.45 p.m. next day. It was one of
A ladder had to be placed on the steep slopes of the ice wall to enable the porters to carry their heavy burdens up to the camp above the North Col.
As the climbers advanced slowly toward the summit of Everest they were able to look down upon some of the lesser peaks. This is the summit of North Peak, 24,730 feet high, taken from an altitude of about 27,000 feet on Everest.
the two periods of suspense which none of the occupants of Camp III is likely ever to forget.

Base Camp suffered even more. Without a telescope Greene and Thompson could see nothing at all of what was going on, and they passed a miserable time waiting for signals from our wireless transmitter, with its maddening "no news."

Time passedwearily. Shebbeare wanted to go up to the North Col. So did I. But there was too much risk of congestion there, should Wyn Harris and Wager succeed in returning the same evening. Brocklebank, who had worked himself almost to a standstill on the slopes of the North Col, was suffering much from breathlessness and from some displacement of muscle about the lower ribs.

Meanwhile, some 7,000 feet above us, Wyn Harris and Wager were making their great effort. The account which I am about to give is taken from notes which I recorded immediately upon their arrival down at Camp III, knowing that even the most accurate observer’s memory for detail fades rapidly after a climb to high altitudes, and from narratives subsequently written by both men.

They had a somewhat disturbed night at Camp VI, after a light meal of Brand’s essence of chicken, tinned loganberries, biscuit and condensed milk. Both men’s appetites were poor, they were thirsty, and slept badly. Wager had the lower berth, so to speak, for the floor of the tent sloped downwards, and his companion kept slipping down upon him. Wyn Harris managed to sleep for about four hours. He was up at 4.30 on the 30th. A ten-mile-an-hour wind was blowing, and the cold was not excessive, considering the altitude. But the Thermos flask, prepared the night before, had not been able to keep its contents warm, and they were obliged to spend an hour heating water (obtained, of course, from snow) over a "Tommy
cooker.” After a very poor meal, during which they thawed out their frozen boots over another “Tommy cooker,” they put on their windproofs, and emerged slowly and stiffly from their tent at 5.40 a.m. All movement is terribly slowed down when your oxygen supply from the air has been reduced to one third of normal.

The sun had not yet reached them, and they suffered much from cold during the first hour while traversing diagonally upwards towards the north-east ridge. Wager noticed that excessive panting resulted in rapid loss of body heat. Both felt the beginnings of frost-bite; and the moment the sun appeared, nearly an hour after they had left Camp VI, Wager sat down to remove his boots and rub his feet. Soon after this, about 60 feet below the crest of the ridge and 250 yards east of the first step, Wyn Harris, who was leading, found the ice-axe about which there has been so much controversy. It was lying free on smooth, brown “boiler-plate” slabs, inclined at an easy angle but steepening considerably just below. It was in perfect condition, looking quite new. On the polished steel head was stamped the name of the maker—Willisch of Täsch, in the Zermatt valley. I will state in a later part of the chapter the conclusions at which we have arrived from careful consideration of this discovery.

The climbers left the axe lying where they found it, and proceeded upwards to the foot of the first step, which is actually composed of two large towers on the ridge. It will be remembered that their first object was to reconnoitre the second step, now about two hundred yards away; to climb it if they could; and to ascend thence along the ridge itself and up the final pyramid to the summit. If the step could not be climbed, they would go by Norton’s 1924 route, keeping more or less along the top of the yellow band, two or three hundred feet below
the crest of the ridge, cross the great couloir, and attack the slabs on its western wall, thus effecting a lodgement on the north face of the pyramid.

It was now 7 a.m. Their first thought was to turn the first step and climb straight up on to the ridge. But they soon saw that the ridge was difficult, and that it would be easier to traverse along the top of the yellow band. They could not, from their view-point, see that the cliffs directly below the second step were impregnable to direct assault; the step itself was obviously so. They therefore moved off horizontally westwards, over snow-covered slabs, keeping roughly to the line where the yellow band adjoins the bottom of the dark-grey limestone precipice forming the continuation of the first step. The going was not very difficult here, and they were still unroped. Arrived under the second step, they at once saw that, not only was the second step itself impossible from this side, but they could not even reach the foot of it. Above them rose the dark-grey precipice, smooth and holdless. From a distance the second step had seemed to be split by an oblique gully cutting down through it in a north-easterly direction. At close quarters even this could not be traced. But about 200 yards farther along appeared a gully of fair promise. It seemed to cut through both the dark bands which form the first and second steps. If it could be climbed, the second step would be turned and the ridge reached at a point beyond which there seemed to be a straightforward way to the summit. The traverse was accordingly continued along ground that now became more difficult, and the bottom of the gully was reached at about 10 a.m.

More than four hours had thus been spent in a detailed survey of this portion of the north face. Knowing the men as I do, I feel very certain that their adverse opinion of the second step and its approaches carries great weight. They
THE FIRST ASSAULT

would not turn aside from a climb within the limits of the possible.

The gully was a delusion, a mere shallow scoop in the smooth walls. Moreover it did not even continue to the ridge. The party roped up here. In general, the rock was of a uniform, treacherous smoothness; in detail, a few knobbly excrescences could be found which, with less snow about, would afford a tolerably good foothold. For the hands there was nothing. Wyn Harris made an attempt to lead up the shallow scoop, but was brought to a standstill almost at once.

Two ways had now been prospected of which high hopes had been entertained through distant reconnaissance. It seemed that Norton was right, and that the ridge route was impracticable. About 150 yards farther along, round a corner, was the great snow couloir descending from the eastern foot of the final pyramid. The roped party climbed cautiously along immediately under the precipice, and were delayed by some very difficult going over snow-covered, sloping slabs near the corner. A single slip here would have been absolutely fatal. Actually they would have done better to traverse along a better ledge, some fifty to a hundred feet below, where the angle eased off. It was decided that they should give each other mutual support over any difficulties in the neighbourhood of the couloir, and that, if easier ground was discovered beyond, Wyn Harris, who was feeling the stronger of the two, should go on alone.

In the couloir a very awkward fifty feet of powder snow had to be crossed. The snow gave no support to the feet, cascading down at a touch, and the greatest care was necessary to prevent a slip. On the left, a few feet away, the rocks overhung. The couloir itself ran precipitously downwards to the main Rongbuk glacier, 10,000 feet below. It was a sensational crossing.

The rocks forming the western wall were even steeper than
ATTACK ON EVEREST

those just left behind, and they had more snow on them, being more protected on this side from the wind. It seemed just possible to find a way round the base of a flat buttress and then up between minor buttresses. The place is well shown in Smythe's photograph (p. 241). The party crept slowly and carefully along for about 150 feet beyond the couloir, traversing slightly upward till they reached a point some fifty feet above the top of the yellow band, on the edge of a small gully where the snow was particularly deep and soft. Wyn Harris attempted to cross it, though knowing full well that Wager, precariously balanced on a slab affording no belays, could not possibly hold him should the snow slip away. It showed every sign of doing so. Suddenly came realisation that the limit of reasonable climbing had been reached, if not passed. Wyn Harris retreated to the lesser evil of the slab, and the position was reviewed.

It was now 12.30 p.m. The height already reached was presumably something over 28,100 feet, for, from Norton's description, he had reached approximately the same place. There remained, therefore, about 1,000 feet to the summit. The going above did not look absolutely impossible, but in the present conditions of snow on the slabs it would be difficult and very dangerous. Even worse was the prospect of a continued traverse across the little gully and the slabs to a biggish subsidiary couloir, which runs down to meet the main couloir about 200 feet below. In good conditions, with the rocks dry and free from snow, this might well be the best way to reach the easier slabs of the final pyramid above the black bands of the first and second steps. To go on in the existing conditions was to court disaster. The most optimistic estimate could not allot much less than four hours for completion of the climb. This would overstep the time-limit of safety, for the returning
climbers must reach Camp V, at least, before dark. Camp VI, where Smythe and Shipton should by now have arrived, only held two men. Wager thought he might be able to continue upwards for another hour. Except in the last necessity, a man should not be left alone, either to wait or to climb, on ground like this. Lastly, both climbers had an uncomfortable feeling that they had not been able to explore fully the possibilities of the second step. If they could only prove, beyond cavil, that that route was wholly out of the question, Smythe and Shipton could go for Norton’s traverse with undivided minds, and could probably reach the couloir in three hours from Camp VI. This would give them a far better chance for the summit.

The word was given for retreat. Neither man liked the thought of repeating the terrific traverse they had made on the ascent. They found a way downwards to a series of ledges between fifty and a hundred feet lower, and had less difficulty in crossing the great couloir and the slabs on both sides of it. This involved a slight diagonal ascent towards the foot of the first step, whence they intended to climb on to the ridge and have a final look at the second step. But they were very near exhaustion point, and the climb to the ridge between the steps proved to be beyond them. They continued slowly towards Camp VI; and while Wyn Harris retrieved the axe left there in the morning (abandoning his own in its place), Wager by a last effort dragged himself up to the ridge east of the first step. He is the only climber who has looked down the stupendous, ice-clad south-east face of the mountain. The ridge here he found to be extremely narrow and indented. By analogy it would be the same between the first and second steps, and he had already seen a tower some twenty-five feet high on that portion, which would present an added difficulty. It was a fair
inference that the second step was too well guarded from every side, apart from its own smooth precipice.

Camp VI was reached at 4 p.m., and the story was told to Smythe and Shipton while they prepared a little tea. They decided that, to make assurance doubly sure, they would have a final look at the second step next day and, if that could not be climbed, they would make their assault by Norton’s route the day after.

Wyn Harris and Wager, after an hour’s rest, followed Longland’s traverse and descended the north ridge to Camp V, where they spent the night in Birnie’s company and continued down to the North Col next morning. On the way Wyn Harris, forgetting the caution which his exhausted condition demanded, attempted to glissade down a short snow-slope. It was the sort of thing he could have undertaken without a second thought in the Alps. The slope was humpbacked, with a camber towards the east; and the snow was very hard. In a moment he found himself sliding, not towards the North Col, but rapidly and with ever-increasing acceleration towards the great precipice which overlooks the east Rongbuk glacier. Fortunately years of guideless climbing had taught him every move in the game. He turned over on to his face, grasping the axe-head on either side of the haft with hands held well into the chest. Slowly he turned the pick over against the hard snow till it was making a deep groove and checking the pace. If this were done too quickly the axe would be torn from his hands and nothing could save him. He told me afterwards that, though it was really a matter of seconds, it seemed to take minutes. He remembered the feather of snow thrown up as the axe bit into the surface. Just in time the braking action brought him to a standstill, on the very edge of the precipice; and he
THE FIRST ASSAULT

traversed, shaken and exhausted, to where Wager could extend a helping hand. It had been a very near thing.

Members of previous expeditions have remarked how slow is the recovery from the exertions of a climb to very high altitudes. In the Alps there is usually a speedy and beneficial reaction to a descent to lower levels. Not so on Mount Everest. Both men were deplorably tired, and were obliged to sit down at frequent intervals. Even the near proximity of the North Col elicited no response, no quickening stride. The mountain had taken every atom of strength they possessed. Wager was perhaps the more exhausted of the two, but McLean speedily determined that both men had dilated hearts and would be out of action for some time. They rested on the North Col on May 31st, during a fresh spell of bad weather, and on the morning of June 1st Wyn Harris rang me up to say they were coming down, whatever the conditions, bringing the eccentric Kipa.

Thus ended the first assault on the summit. Necessarily it was of the nature of a compromise and, like all compromises, subject to handicaps. Wyn Harris and Wager did all that mortal men could do to carry out their duty of exploring the possibilities of Mallory's ridge route. Then, although pressed for time and exhausted by prolonged reconnaissance, they made a most determined and gallant attack along Norton's route; but for adverse conditions of snow, they might have succeeded in solving the problem of that solitary break in the defences, even though the summit remained beyond their reach. As it was, they had done more than win success—they had deserved it.

Brocklebank, Shebbeare and I went up to meet them at the foot of the ice-wall, finding the North Col track better than we expected; and we were delighted to find them descending with
remarkable alacrity. All except Kipa, that is to say. Poor old Kipa's bewildered mind still held doggedly to the idea that he was dead. But McLean's diagnosis showed that physically he was very much alive, in fact quite well again but for slight sickness due to a surfeit of Ovaltine. Nothing but friendly or, as Greene has called it, "purely therapeutic" propulsion from the rear would move him. It was a slow process, for Wyn Harris and Wager had to steady him with the rope down the steps. I remember catching hold of his dangling legs at the bottom of the rope ladder; conducting a vivacious argument with him (he was very voluble) as to the dividing line between life and death; and handing him over to Brocklebank, who got him down the rest of the way with notable vigour and success. Kipa, who made a sufficiently complete recovery later on, was always very grateful to the sahibs who had convinced him that he was still alive. I gave him a very special and comprehensive "chit" to himself at Darjeeling. We could never forget that the honest, loyal old fellow had been a "tiger," had carried his load to 27,400 feet, and had suffered for it. The men made a butt of him, but gently.

It was a cold day's work on the slopes. Dry surface snow, slipping down the shallow funnel above the rope ladder, fell in showers upon us standing at the foot of the ice-wall, chilling even our gloved hands till they could scarcely hold the rope. As we descended, a violent wind drove into our faces from the Rapiu La and sent the snow flying across the glacier.

I must now revert to the question of the axe which Wyn Harris found on the slabs, one hour's climbing above Camp VI. I have already stated that the maker of it was Willisch of Täsch. Our first thought was that the owner must undoubtedly have been Mallory, for the reason that Willisch is a master
craftsman to whom first-rate amateurs like Mallory, who do their climbing without guides and therefore do their own step-cutting, would be likely to go for a really good axe. I have subsequently been informed, however, that a number of Willisch axes were supplied to the expedition of 1924, so it is possible that this one was carried by Irvine. To one of these two it must have belonged, for no other climbers have gone by that route previous to this year. Norton and Somervell traversed by a lower line, on their way diagonally upwards from their Camp VI to the couloir. Some have suggested that this was the axe dropped by Somervell soon after he and Norton turned to descend. But they were much farther to the west when this happened, and Somervell’s axe fell straight down the mountain-side and disappeared from view “still going strong.” Others proffer the theories that either Mallory or Irvine put down the axe in order to climb unencumbered, or even that it was planted on the summit and blown by wind in the course of time to the place where it was found.

As to the first of these theories, no mountaineer climbing the north face of Mount Everest regards his axe as an encumbrance. It is his best friend and greatest safeguard. He uses it to help his balance on the outward-dipping slabs, to anchor himself when the treacherous gusts are tearing at his legs, to clear a foothold on the snow-covered rocks and, on occasion, to cut steps across hard patches of snow. The second theory is even less tenable. Supposing the axe to have been planted on the summit, for the reasons just given it would not be abandoned there. Even if it were, and supposing that the wind blew it away, it could only fall on one side or the other of the summit ridge; to north or south, to the main Rongbuk glacier, 11,000 feet below, or down the enormous southern face. By no conceivable combination of circumstances could it be carried down
the eastern edge of the final pyramid, and almost horizontally eastwards for a distance of about two thirds of a mile.

We have naturally paid close attention to the problem. Firstly, it seems probable that the axe marked the scene of a fatal accident. For the reasons already given, neither climber would be likely to abandon it deliberately on the slabs, and its presence there would seem to indicate either that it was accidentally dropped when a slip occurred or that its owner put it down possibly in order to have both hands free to hold the rope. The slabs at this point are not particularly steep, but they are smooth and in places have a covering of loose pebbles which are an added danger. A slip might easily occur, and would be difficult to stop. We have no means of knowing if Mallory and Irvine climbed roped together; it is not unlikely that they did. But the rope is a poor safeguard, for the climber has no secure foothold on which to brace himself against a shock. Below, the slabs steepen considerably. A fall once begun is likely to continue. Norton has pointed out that anything dropped almost anywhere on the north face is lost for good, owing to the outward and downward dip of the strata. A flat and comparatively light object like an axe might, in this particular place, have failed to gather momentum and therefore have stayed where it was dropped or laid down; and the axe in question resisted the pull of gravity and of the wind for nine years. But the rule rather than the exception would govern the effect of any miscalculation or loss of balance by a climber.

Secondly, the evidence is insufficient to prove whether the accident occurred during the ascent or the descent. Prima facie, a slip would be more likely to occur during the descent. It is known that Mallory preferred to try the crest of the north-east arête, and he may well have taken this line to reach it, even from the old Camp VI on the north ridge. Would he have
THE FIRST ASSAULT

returned the same way, whether he succeeded in climbing the second step or was forced on to Norton's traverse? If he was forced on to Norton's traverse, the more direct route back would be that adopted by Norton and Somervell, lower down; but Mallory might have preferred to regain the line which he had taken on the ascent and therefore knew to be practicable. If he climbed the second step, he would almost certainly return the same way. Odell believes that he saw Mallory and Irvine near the second step while he was ascending from Camp V in support. If he did see them, and if our theory as to the scene of the accident is correct, Mallory and Irvine fell on the descent. I quote Odell's own words in The Fight for Everest, 1924:

"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 scarcely 100 feet of it, and as I reached the top there was a sudden clearing of the atmosphere 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 what seemed to me to be 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 a cloud once more, and I could not actually be certain that I saw the second figure join the first. It was of course none other than Mallory and Irvine, and I was surprised above all to see them so late as this, namely 12.50, at a point which, if the 'second rock step,' they should have reached, according to Mallory's schedule, by 8 a.m. at latest, and if the 'first rock step,' proportion-
ately earlier. The 'second rock step' is seen prominently in photographs of the North Face from the Base Camp, where it appears a short distance from the base of the final pyramid down the snowy first part of the crest of the North-East Arête. The lower 'first rock step' is about an equivalent distance again to the left. Owing to the small portion of the summit ridge uncovered I could not be precisely certain at which of these two 'steps' they were, as in profile and from below they are very similar, but at the time I took it for the upper 'second step.' However, I am a little doubtful now whether the latter would not be hidden by the projecting nearer ground from my position below on the face. 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 together—a not unimportant consideration in any estimate of what may have eventually befallen them.”

Later on, Odell says that he saw the first of the two figures actually surmount the step within the five minutes of his last glimpse of them.

Now it is highly probable that Odell did see the "second rock step" through the break in the mists. It is not masked from about his view-point. Moreover the "first rock step" does not need to be climbed—it is easily turned on the north face. Therefore, if Odell saw figures at all, they were almost certainly approaching the "second rock step," and one of them may have ascended it.

I am not prepared to say that a man possessed of good sight could not have seen figures on a snow-slope separated from him by a vertical distance of 2,000 feet and a horizontal distance of
some 600 yards; it would, I suggest, be vastly more difficult for him to see a single figure climb a dark rock-face, though he might see it arrive at the top, silhouetted against the sky.

More serious is the time question. The four men of this year's expedition who have been near the "second rock step" are very doubtful if it can be climbed at all; they are quite sure that no man, however skilful, could climb it in five minutes.

Supposing them to be right, what then did Odell see? I suggest that the incident which occurred during Smythe and Shipton's ascent to Camp VI, described in the next chapter, offers a reasonable explanation. But Odell's firmly-held opinion is entitled to the greatest respect, and perhaps the affair will always remain a matter for conjecture. There exists, at present, no conclusive evidence as to whether Mallory and Irvine reached the summit. If Odell really saw them near the second step so late as 12.50 p.m., the questions arise whether they could possibly have completed the ascent at all, and whether Mallory would have gone on at all costs, regardless of the danger of being benighted. Norton firmly believes that Mallory had a full sense of his responsibility. If, on the other hand, Odell was mistaken, the time-factor does not apply and we know nothing further of the party's movements. We should like to think that they succeeded, for none deserved it better than Mallory, who throughout three expeditions had ever been in the forefront of the battle; or than Irvine, who in his short period of service showed a devotion to duty which could hardly be surpassed.

The weather gave us no rest, and there was a heavy fall of snow on May 31st, which would prevent Smythe and Shipton from making their proposed reconnaissance. On the morning of June 1st we could see fresh snow lying right up to the summit. It could only be left to the climbers to use their judgment.
Knowing what the condition of the slabs would be, I could not be surprised if they decided to descend to the North Col. They did nothing of the kind.

A detailed narrative of the second and, as it turned out, the last assault on the summit, is better given by the man who carried it out. Smythe will describe, in the next chapter, the adventures upon which he and Shipton now embarked.

Down at Camp III preparation had now to be made for taking the whole party down to the Base Camp, so soon as Smythe and Shipton and the supporting parties should return. There was no feeling of retreat about it, though the mountain was becoming steadily whiter as the monsoon advanced. If the second assault failed, we still thought we might take advantage of a break in the monsoon to try again. Wyn Harris and Wager insisted that after a period of rest they would be ready. Greene, splendide mendax, wirelessed up from the Base Camp that he had recovered. Crawford and Brocklebank were obviously coming on well. Longland blandly asserted his complete fitness. Birnie, I knew, was feeling the strain at Camp V, but he would not abandon his post, and there was no one available at the moment to relieve him. There would be no lack of volunteers for the next attempt. As for the porters, they were prepared for anything. A little matter like another carry to Camp VI did not bother them. "Tigers" grew on every stone. The only difficulty was to select the best.

Meanwhile Smijth-Windham coaxed even music, much interrupted by atmospherics, from the wireless; the company listened to the strains of "Blue Danube," with one ear always cocked for the tinkle of the telephone bell. In times of strain a little jollity is not amiss.
Shipton and I awoke early at Camp IV on the morning of May 29th. Much depended on the weather. Anxiously we parted the twin flaps of the double-skinned arctic tent and gazed outside. The sky above was brilliantly clear, but eastwards stretched an ocean of monsoon cloud, its loftiest billows lit by the rising sun. The air about us was strangely calm, and even Everest had doffed its cap of wind-driven snow. Could this be the beginning of the long-prayed-for calm spell prior to the first burst of the monsoon, when the south-east and north-west winds cancel each other out in their struggle for supremacy?

After a leisurely breakfast we packed our rucksacks and set off for Camp V. During our first two ascents towards it we had made height at the rate of nearly 1,000 feet an hour, but we realised now how essential it was to conserve strength, and climbed at about half that speed.

The fine morning was short-lived. On the long, monotonous ridge of snow and broken rocks leading upwards from the North Col we began to experience wind, which increased steadily as we rose. We wondered whether Wyn Harris, Wager and Longland, who, according to programme, should be establishing Camp VI, had been able to leave Camp V. If not, there would
be no room for us there. Our anxiety increased as we toiled past Finch's 1922 camp: mists gathered, snow whirled past in stinging clouds, and visibility was reduced to a few yards. The cold was intense, and we huddled on every stitch of spare clothing. Fortunately it was fairly easy to maintain direction, and once or twice we were cheered by seeing pieces of red bunting marking the route. But it was a relief when, after some five hours of climbing, the storm-battered little tents of Camp V appeared through the driving clouds of snow, and we were able to escape from the blizzard into the shelter of a tent, where Birnie welcomed us with a brew of tea which he had all ready in a Thermos flask.

As the afternoon lengthened, the blizzard increased in fury. We feared for the safety of Longland and his porters who were returning from Camp VI. Now and again we glanced outside. Little was to be seen save a writhing smother of snow tearing across the slabs above the camp. Towards evening, to our relief, we heard voices. A few instants later we greeted Longland. He was unrecognisable. His face was clotted with ice; icicles hung from his nose; a chandelier of them was suspended from his beard. He brought great news. Camp VI had been established at a height of about 27,400 feet, on the limestone slabs of the yellow band, about 400 yards east of the first step and 250 feet beneath the crest of the north-east ridge. The porters had worked magnificently. Carrying loads of from 12 to 15 lbs. each, they had pitched a camp 600 feet higher than the Camp VI of 1924. Their descent had been a terrible one. For the last two hours it had not been possible to see more than a yard or two in the blizzard. Only by the exercise of supreme mountaineering skill had Longland steered his party down to safety.

After a short rest the Camp VI party was able to continue
the descent to Camp IV, with the exception of two exhausted porters who elected to remain at Camp V.

Foolishly, we decided to sleep all three in a tent intended to hold only two and, as a result, passed a restless and uncomfortable night. Fortunately sleepless nights at high altitudes seem less interminable than they do at low altitudes. The mountaineer lies half comatose, only dimly aware of the slow march of the hours, caring little for the angular elbow of a companion or the inevitable stone exploring his hip or the small of his back.

The blizzard blew itself out during the night and the morning dawned fine. The clouds had retreated from many of the valleys, and for once we could appreciate our height. Over 5,000 feet beneath lay the Rongbuk glacier, shadowed and forbidding. Above it rose Pumori, a queen among lesser peaks, its snowy cone lit by the rising sun. North-westwards of Pumori stretched a wild jumble of peaks, whose dark precipices, shining avalanche-fluted ice-slopes, sickle-like blades of snow and jagged saws of rock led the eye upwards to the twin giants of Chö-oyu and Gyachung Kang. It was a relief to turn from this display of mountain savagery to the serene curve of the East Rongbuk glacier, and thence to mountains of soberer form and the distant honey-coloured uplands of Tibet.

An early start was unnecessary, and we waited until the sun had risen sufficiently high to warm us. Then, leaving Birnie to his lonely vigil at Camp V, we commenced the ascent to Camp VI. For several hundreds of feet we met with some disagreeable climbing. The slabs, snow-masked by the blizzard, demanded care; the steeply sloping patches of small scree, firmly cemented by cold and dusty with powdery snow, afforded treacherous footing. Presently we found easier going on broken rocks. Keeping as nearly as possible to the crest of the north ridge, we made steady progress. Some two and a half hours above Camp V we
passed the remains of the 1924 Camp VI. The tent had long since been blown to ribbons, and its green fabric lay forlornly among its weather-bleached poles.

It was near Camp VI that Shipton suddenly stopped and pointed. "There go Wyn and Wager on the second step," he exclaimed. Sure enough, there were two little dots on a steep snow-slope at the foot of the cliff. We stared hard at them and could have sworn they moved. Then, simultaneously, we realised that they were rocks. And, strangely enough, there are two more rocks perched on a snow-slope immediately above the step; these again looked like men and appeared to move when stared at. It was somewhere in the neighborhood of Camp VI that Odell thought he saw Mallory and Irvine. The distance from this point to the second step is about one mile, and human figures would appear no larger than dots. Is it possible that he was similarly tricked by his eyes? His view of the north-east ridge was between shifting mists and lasted only a minute or two. The effects of altitude, tiredness, and the strain of climbing combine to impair the efficiency of vision. It was 12.50 p.m. when they were seen. Why were they so late? No one could possibly climb the second step in the short time that he saw them; it is quite 100 feet high, vertical for the most part and even overhangs in its upper portion. It is probably unclimbable and certainly desperately difficult. Odell, however, thinks that he may have mistaken the first step for the second step. If so, it is even stranger that they should have been so late. To reach the summit from the first step and return before nightfall would have been impossible, and Mallory was too fine a mountaineer to throw his life and that of his companion away on impossibilities. On the other hand, they may have decided to go on as far as they could and return by nightfall. Another point in favour of Odell's view of them is that it is certain that they reached a
point very close to the crest of the north-east ridge, if not the
crest of the ridge itself.

A short distance above the remains of the 1924 Camp VI we
managed to scramble down from the north ridge to a ledge on
its eastern side. There we were sheltered from a slight but cold
breeze, and sat for a while in delightful warmth, our legs
dangling over the depths of a couloir that descends to the East
Rongbuk glacier. So seldom did we feel warm on Everest that
it required a real effort to force ourselves into action again.

Climbing back over the ridge we bore westwards past a promi-
nent tower of yellow limestone. This brought us to broken easy
ground of moderate angle beneath the 1,000-foot thick yellow
limestone band, the crest of which forms the north-east ridge.
We halted and searched the rocks for Camp VI. Suddenly we
saw it, a dark-green dot perched on the slabs several hundred
feet above us.

Wyn Harris, Wager and Longland with their porters had
ascended the slabs directly to the camp site, but Longland had
brought the porters back along a nearly horizontal shelf to the
east of the camp, and thence gained the north ridge only a short
distance below the north-east shoulder. Seen from below, this
latter route is by no means obvious, and we decided to follow
the more direct upward route.

To reach the foot of the yellow band involved a toilsome
ascent up loose scree and slabs. Our legs were tired, and none
of the time-honoured artifices such as the view, an errant boot-
lace or a photograph were necessary to induce frequent halts.

Our plan was to follow a couloir that ended just below the
Camp. To enter it involved us in difficulties. The new snow
that had fallen had collected at its foot and had been compacted
by the wind into a hard icy shield. Every step had to be cut for
quite 100 feet. Step cutting at 27,000 feet is something more
than hard work, and we were glad at first to encounter softer snow. But it was snow of the most evil quality, loose and floury, and we sank knee-deep into it. There was no alternative save to leave the couloir in favour of the slabs to the west. It was a real struggle floundering out of it. The same loose snow covered the slabs, but there was not so much. Nevertheless, the next 300 feet of ascent provided us with the nastiest bit of climbing we had yet had. The face at this point consists of outward-shelving slabs, broken by steep little bands of rock that traverse the mountain-side more or less horizontally. Every outward-sloping ledge was laden with snow. There were no good holds and never a belay. A rope is more dangerous than useful on such rocks, and by mutual consent we climbed unroped. The loose snow had to be shovelled and swept away from every ledge with gloved hands before secure lodgment could be obtained. It was slow, cold, and fatiguing work, and it was with a grunt of joy—we had no breath left to shout—that we emerged from the slabs on to a patch of scree to see Camp VI only a few yards above us. A few minutes later we crawled into the little Burns tent and flopped thankfully down on the sleeping-bags. After a rest we collected some snow in a saucepan and set about making a hot drink. At that altitude, however, our solid methylated cookers proved so inefficient that it took them over an hour to melt snow and make two cups of lukewarm tea: not once during our stay at Camp VI was water raised to boiling-point in consequence of the diminished pressure.

The afternoon was drawing on when Wyn Harris and Wager returned. We knew that their chance of success had been nullified or at least greatly diminished by the new snow on the rocks, and it was no surprise to hear of their bad luck. They had made a great effort, and were able to advise us as to the route to be followed. From what they had gleaned during their reconnaiss-
sance, it was obvious that we must attempt to reach the summit by Norton and Somervell's route. After a warm drink they left for Camp V, following the terrace discovered by Longland, and for some time we watched them methodically traversing the shelving slabs. Then, securing the tent flaps, we struggled out of our windproof clothing and buried ourselves as snugly as possible in our sleeping-bags.

Before the sun left the tent we ate our supper, thawing out four tins of Brand's meat essence and some tinned fish, and concluding our meal with a grand brew of café au lait and condensed milk. By the time we had finished, the tent was glowing in the last gleams of the declining sun. For a few brief moments we glanced outside. Distress in breathing, the cold, and the callous grip of altitude on our senses made us unmindful of the beauties and grandeurs about us. But I retained some impressions.

The evening was peaceful, the most peaceful evening we had yet experienced above the North Col. Only occasionally did breaths of wind stray past our solitary tent, but breaths that might have emanated from the lungs of that frigid Mephistopheles whom the Tibetans believe dominates a hell of eternal and awful cold. Thousands of feet below, a cloud-sea stretched to the uttermost limits of the western and north-western horizon. Above it rose the glorious massif of Chö-oyu and Gyachung Kang. Most of the lesser peaks were smothered, but some pierced the cloudy ocean, and the sharp crest of Pumori loomed through like some deadly rock set for the destruction of aerial mariners. As we watched, the golden light died from the misty billows, leaving them grey and cold. Shivering we sought the shelter of our sleeping-bags. For a few minutes longer the slabs about us were steeped in an unearthly glare. Then, suddenly, the fires were quenched and at one stride came the dark.
ATTACK ON EVEREST

It was not a comfortable night. The sharpest stones in Asia had inserted themselves cunningly beneath the tent. Time, the threat of bad weather, and tiredness had prevented the first party from constructing a proper platform, and about one third of the tent projected outwards unsupported, while the remainder sloped awkwardly downwards. Shipton occupied the lower and partially unsupported side, and I the sloping upper side. I spent the night in rolling on top of Shipton and Shipton spent the night in being rolled on by me.

Dawn came at last. We were both tired and depressed—the mental depression resulting from insufficient oxygen—and felt disinclined to do anything. Actually, there was nothing to be done. As daylight increased, the wind rose and snow began to fall. There was no possibility of making an attempt on the summit, and we resigned ourselves to a day in our sleeping bags.

By the afternoon a blizzard was raging. I think we both realised that our attempt was foredoomed to failure, but neither of us liked to voice this thought to the other. If the bad weather continued or the monsoon broke, descent might be prevented. We had food for two or three days, or longer at a pinch, but fuel for only two days. More serious was the question of deterioration. How many days could a man spend at 27,400 feet and still retain sufficient strength to descend safely? But in one respect altitude is merciful; the mountaineer is too much occupied with the problem of existing in the present to worry about the future. Our only grouse was the food. This had not worked according to plan. We craved for something more substantial than jellies and "slops." Shipton's constant plaint was, "Oh for a few dozen eggs!" I sighed for a tin of Frankfurter sausages and sauerkraut. Former expeditions have been able to eat little on or above the North Col and then only carbohydrates. Somervell told me that in 1924 his favourite diet was strawberry jam.
and condensed milk. In 1933 Ruttledge’s policy of slow acclimatisation proved so successful that tastes were different. Unfortunately the rations for high camps had naturally been based on previous experience.

The long day passed. Towards evening the clouds parted and the sun shone for a short time. The scene was wintry and desolate. The wind had lessened somewhat, but now and again a savage gust whirled a ghost-like spiral of snow across the slabs.

The night was no more comfortable than the last, and was punctuated by wind squalls which volleyed the snow against the tent.

The morning dawned clear. It was our last chance of making the attempt on the summit. We had planned to leave the camp at 5 a.m., but the wind and cold were so great at that hour that to have done so would have meant frost-bite. We cooked some sort of a breakfast. As we did so the wind dropped. At about 6.30 a.m. we began the exhausting process of pulling on our windproof clothing and insinuating our feet into boots frozen to a consistency of granite. Our appearance muffled up in all the clothing we possessed resembled the Tweedledum and Tweedle-dee of Through the Looking Glass. I wore one Shetland vest, a thick flannel shirt, a thick camel-hair sweater, six light Shetland pullovers, two long pairs of Shetland pants, flannel trousers, and over all a silk-lined “Grenfell” windproof suit; my head was protected by a light Shetland balaclava helmet and an outer helmet of Grenfell cloth; and my feet were encased in four pairs of Shetland socks and stockings. The climbing boots were of necessity broad and lightly nailed, but they gripped admirably on the sloping slabs. The ideal gloves for Mount Everest have yet to be designed, but a pair of woollen fingerless gloves and over them a pair of South African lambskin gloves kept the hands reasonably warm.
We took with us a length of light line, but by mutual consent we agreed not to use it on the slabs in the neighbourhood of Camp VI. Directly above the camp was a slanting snow-filled gully which took us easily upwards for some distance. Prior to starting, Shipton had complained of stomach trouble, and it was obvious that he was not going as well as usual. Above the couloir we found ourselves on slabs sloping to the crest of the ridge at a uniform angle of between 30° and 35°. These slabs were not in the least difficult—not to be compared with those below Camp VI—but they demanded care owing to the fresh snow concealing the shelving ledges. It was hereabouts that disaster probably overtook Mallory and Irvine; there are no belays, and a slip would be hard to stop. We came so close to the crest of the ridge that, looking in a south-easterly direction, we could see over it. A canopy of cloud concealed Nepal and only the summits of the loftiest peaks rose above it. Far beyond, a wall of giant dun-coloured cumulus spanned the south-eastern horizon: the monsoon rains were drenching the foot-hills of the Himalaya.

Traversing below the ridge and ascending slightly, we presently gained a gently sloping terrace of scree, on which a camp might be pitched, leading to the foot of the two massive towers forming the first step. Passing beneath the step, we continued along a gradually narrowing series of ledges. Up to this point we had not gone fast, but we had gone well and steadily. It was a shock to me, therefore, when Shipton suddenly succumbed to his stomach trouble. He said that he was only holding me back and suggested that I should go on, leaving him to follow slowly if he could. Now it had been laid down as an axiom that no man was to go on till he collapsed from exhaustion; to do so might involve the whole party in disaster. Shipton wisely realised this and was able to return to Camp VI in safety. On the way across
Tibet we had often discussed the possibility of one of a climbing party being unable to go on, and now that it occurred to one of us, he was not found wanting in that commonsensical outlook which is so vital in the mental equipment of the mountaineer. It was a bitter disappointment to both of us, and the chance of success, already minimised by our late start and the bad condition of the mountain, was almost eliminated. Having assured myself that he was fit enough to return to Camp VI, I continued alone.

In order to traverse the great couloir as high as possible, I decided to keep on the crest of the yellow band immediately beneath the twin bands of black rock formed by the first and second steps. As events proved, it would have been better to have traversed lower. The general angle of the slabs of the yellow band is concave, and the lower the band is traversed the easier it is. Also, owing to the shelter afforded by the steep rocks above, there was more snow lying high up on it than there was lower down. In places this snow was wind-blown and hard, but mostly it was soft and powdery. First of all came a slope of hard snow, about 30 yards broad, which necessitated step-cutting all the way across it. Beyond were narrow shelving ledges deep in powdery snow, which had to be kicked or scraped away before safe footholds could be found. Here and there, where the rocks had been blown clear, the going was easy. The angle steepened gradually, and once or twice, where ledges petered out, I had to return and seek for an alternative route. A corner formed by a projecting buttress was turned, and the buttress bounding the western wall of the couloir became visible. There was much snow lying on it, but nevertheless I experienced a thrill of hope. If it proved possible to traverse it to the ridge above, it might also be possible to force a way through an obvious breach formed by the intersection of a subsidiary couloir of the great
ATTACK ON EVEREST

couloir with the black rock band above, which continued from this point unbroken across the northern face of the mountain. Above the band the rocks looked easier, and once on the face of the final pyramid I might have a chance of reaching the summit.

Presently the great couloir became visible. It was filled with snow which ended beneath an impasse formed by a series of fearsome black overhangs, which put me in mind of the central gully on Lliwedd in North Wales. In general angle the couloir was exceedingly steep, and some two or three hundred feet lower it was broken by a sheer precipice. To enter it I first of all traversed along a ledge, but the ledge narrowed to such an extent that I was forced to edge along it facing inwards, my arms outstretched to grip the few rugosities in the steep rock above like "some beast of ill repute nailed to the wall of a barn." But balance was too critical, and I felt that an extra deep breath might topple me off backwards down the couloir to the Rongbuk glacier 9,000 feet beneath. So I edged back again, but as soon as I had done so I persuaded myself that I was making a quite unnecessary fuss over an obviously climbable place and tried again—with no better success. The alternative was a wider snow-covered ledge some twenty feet lower. To descend to it I adopted a sitting position, and, trusting to friction, lowered myself down the slabs on the palms of my hands. Being partially masked with loose snow, the ledge necessitated care, but it was nowhere difficult, and soon I found myself on the edge of the couloir. To my surprise, the couloir at this point was filled with hard snow. About a dozen steps had to be cut. Hard work it was and, though I endeavoured to swing my ice-axe with the minimum expenditure of effort, I had frequently to pause for breath. It was with considerable relief that I reached the rocks of the buttress on the other side.

As previously explained, the subsidiary couloir west of the
THE SECOND ASSAULT

buttress makes the only breach in the otherwise impregnable black band of rock formed by the continuation of the second step across the northern face of the mountain. It is the one weakness in the most formidable of Mount Everest's defences, and in it lies the key to the ascent. My plan was to make a steep ascending traverse into the subsidiary couloir, enter it as high as possible, and thence follow it through the breach on to the face of the final pyramid. This plan, as well as any hope I had previously entertained of reaching the summit, was doomed to failure.

As far as the great couloir the climbing had been more dangerous than difficult; now it became both difficult and dangerous. The buttress was sheltered from the west wind, and the new snow fallen in the previous day's blizzard had accumulated on every place that was not too steep to hold it. And it was snow of the worst quality, soft like flour and loose like castor sugar. Owing to their steepness, the abrupt walls separating the shelving ledges were free of snow, but the ledges along which progress had to be made were covered with snow, into which I sank knee-deep and sometimes even thigh-deep. Imagine a house-roof covered with loose snow of such consistency that it cannot hold the foot and thus prevent a slip, and you will form a fair idea of the place. Sometimes I had to burrow and grope about in the snow for holds, at other times shovel the snow away altogether until roughnesses in the slabs beneath were exposed. It was work of the most arduous and exacting nature.

The western side of the great couloir was reached at 10 a.m. At 11 a.m. I had gained but fifty feet of height and had reached about the same place as did Wyn Harris and Wager. Time alone rendered the summit inaccessible under such conditions, while such exhausting work could not be kept up for hours on end, as it would have to be if the buttress were traversed. The bitterness of defeat was brought home to me, but it was a bitterness merci-
fully dulled by altitude. I remember glancing at the summit. How pitilessly indifferent, how utterly aloof and detached from my futile gaspings and strugglings it appeared!

It was somewhere near my highest point that a small protuberance on which I was standing came clean away. Luckily my ice-axe pick was jammed in a crack at the time and a fall was prevented. It was a near thing, but it seemed a trivial incident at the time. At 28,000 feet the brain is incapable of registering strong emotion. It was, however, with a certain feeling of thankfulness that I retraced my steps across the couloir.

Now that I was defeated and had only to return to Camp VI, I had time to take stock of my surroundings. Under the conditions prevailing in 1933, Everest is impossible by any route. Under better conditions, when the rocks are free of snow, Brigadier Norton has shown that it is possible to traverse the "tiles" with comparative ease. It would appear, however, that the best route is not to traverse the couloir high, but as low as possible. Apart from the fact that the general inclination of the yellow band is slightly concave and that the lower it is traversed the easier it is, it is better to avoid the steep buttress, and this can be done by keeping low down and turning it at its base where the subsidiary couloir bifurcates with the great couloir. If the subsidiary couloir held good snow, it could then be climbed direct to the breach, but if it held bad snow, as is extremely likely, it should be possible to climb the rocks at the side of it, or alternatively to traverse out of it on to the snow ridge bounding it to the west. Whichever route is followed, something more than an ordinary effort will be required before easier ground on the face of the final pyramid is reached. Wyn Harris has suggested that oxygen apparatus giving off a large quantity of gas for a short time should be used for this bad section of the climb. Camp VI should be pitched on the scree ledge under the first
step. Thence carrying oxygen but not using it, the climber will make a gradually descending traverse across the yellow band to the great couloir. He will then don the apparatus and climb as rapidly as possible to the breach in the black band. Once through this he will leave his apparatus and proceed without it. Any oxygen left over could be employed to help him during the descent. In addition, a long length of very light cord could be taken and fixed to pitons above and below the steep 300 feet between the great couloir and the breach: this might prove invaluable, for there is no doubt that those who climb Everest even in the best conditions are going to be "all in" after their tremendous effort. One disadvantage of pitching Camp VI under the first step is that the exhausted climber returning from the summit will be required to ascend over 100 feet to the camp; but this disadvantage will be more than compensated by the saving of time on the way to the summit and the carrying of the oxygen apparatus downhill instead of up before it is used. Both mentally and physically it is going to require a supreme effort to climb the last 1,000 feet, and anything that can stimulate the climber's flagging mental and physical energies should be employed. In all probability the summit can be reached by an acclimatised man without oxygen, but the odds against him are great. The difficulty of the mountain, the evil effects of altitude, the possibility of being benighted, the risk of sudden storms and the dangers of exhaustion are so serious that oxygen should be taken if it can aid the climber. Prior to 1933 there were those to whom the thought of it was abhorrent. I confess to a similar prejudice. There seemed something almost unfair in climbing what was then thought to be an easy mountain by such artificial means. I doubt whether there is a member of the present expedition who now thinks thus, for Everest has been proved to rely for its defence not only on bad weather and altitude, but on its diffi-
On May 22 a party of porters and mountaineers set out from the North Col to establish Camp V at 25,700 feet. They are seen here making their way over the snow, each porter's pack limited to fifteen pounds because of the high altitude.
Located at a height of 21,000 feet and the expedition's headquarters for nearly two months, Camp III was swept constantly by gales and blizzards. Behind the wireless the summit of Everest is seen, 8000 feet above.
culties too; it allows of no latitude; it defends with every means in its power, and its weapons are terrible ones; it is as exacting on the mind as it is on the body. Those who tread its last 1,000 feet tread the physical limits of the world.

On the way back to Camp VI, I traversed low down along the yellow band and discovered easier going. The lower edge of the band breaks away in a sheer precipice, and the best route was a few feet above this. Once or twice I stopped to take photographs. Extracting the camera from the pocket, opening it, adjusting the lens aperture and shutter speed, and then trying to still the panting of the lungs for one brief instant was not easy. Furthermore, my gloves were so stiff that it was only possible to work the camera with bare hands.

Traversing low down on the yellow band meant that an ascent of over 100 feet was necessary to the foot of the first step if the line by which I had reached this point from Camp VI to this point was to be regained. I decided, therefore, to traverse directly to the camp. It was a bore having to return to Camp VII at all, for the line of descent followed by Norton and Somervell is the obvious way down the mountain and considerably easier than the long traverse I had to make to regain the Camp. Had Shipton not expected me, I should have descended by this route to Camp V. Several times on the way back, below the second and first steps, I stopped to examine the rocks above, but there appeared to be no feasible route through the two bands. Norton has suggested the possibility of breaking through the lower of these two bands east of the great couloir, and traversing along the slabs between it and the upper band until it is possible to break through the latter. The objection to this is that, even supposing a route be found through the lower band, the slabs that would have to be traversed are much steeper than the slabs below the two bands.
The traverse back to camp was a long and tedious business. The rocks were not difficult, but they exacted continual care. Its shelving ledges are separated by abrupt little walls, and progress was made by traversing one ledge for a short distance, then clambering down a wall to a lower ledge, then along this and down again to another ledge. The yellow limestone rocks hold the boot well, but here and there they are broken by veins of whitish rock which are treacherously slippery. To a tired man this rock forms a trap, for the foot slips from it more easily than it does from the yellow rock.

During my solitary climb two curious phenomena were experienced. It is with great diffidence that I mention them, and then only at Rutledge’s request. I prefer to draw no inferences from them and merely to describe them. The reader should realise, however, that men under physical and mental stress have experienced curious things on mountains, and instances are described in the pages of the Alpine Journal. Furthermore, the effects of oxygen-lack on the brain are complex and but little understood; Wyn Harris’s nightmares are a case in point. The first phenomenon was one that is by no means unique, and has been experienced in the past by solitary wanderers, not only on mountains but on desert wastes and in polar regions. All the time that I was climbing alone I had a strong feeling that I was accompanied by a second person. This feeling was so strong that it completely eliminated all loneliness I might otherwise have felt. It even seemed that I was tied to my “companion” by a rope, and that if I slipped “he” would hold me. I remember constantly glancing back over my shoulder, and once, when after reaching my highest point, I stopped to try and eat some mint cake, I carefully divided it and turned round with one half in my hand. It was almost a shock to find no one to whom to give it. It seemed to me that this “presence” was a strong, help-
ful and friendly one, and it was not until Camp VI was sighted that the link connecting me, as it seemed at the time to the beyond, was snapped, and, although Shipton and the camp were but a few yards away, I suddenly felt alone.

The second phenomenon may or may not have been an optical illusion—personally I am convinced that it was not. I was still some 200 feet above Camp VI and a considerable distance horizontally from it when, chancing to glance in the direction of the north ridge, I saw two curious-looking objects floating in the sky. They strongly resembled kite-balloons in shape, but one possessed what appeared to be squat underdeveloped wings, and the other a protuberance suggestive of a beak. They hovered motionless but seemed slowly to pulsate, a pulsation incidentally much slower than my own heart-beats, which is of interest supposing that it was an optical illusion. The two objects were very dark in colour and were silhouetted sharply against the sky, or possibly a background of cloud. So interested was I that I stopped to observe them. My brain appeared to be working normally, and I deliberately put myself through a series of tests. First of all I glanced away. The objects did not follow my vision, but they were still there when I looked back again. Then I looked away again, and this time identified by name a number of peaks, valleys and glaciers by way of a mental test. But when I looked back again, the objects still confronted me. At this I gave them up as a bad job, but just as I was starting to move again a mist suddenly drifted across. Gradually they disappeared behind it, and when a minute or two later it had drifted clear, exposing the whole of the north ridge once more, they had vanished as mysteriously as they came. It may be of interest to state that their position was roughly midway between the position of the 1924 Camp VI and the north-east shoulder. Thus, they were at a height of about 27,200 feet, and as I was at about
27,600 feet when I saw them, a line connecting their approximate position with my position would not bring them against a background of sky, but against lower and distant mountains. It is conceivable, therefore, that it was some strange effect of mist and mountain magnified by imagination. On the other hand, it may have been a mirage, and when I put forward this hypothesis I have in mind an extraordinary mirage of ships observed by Colonel Philip Neame and myself from the Finsteraarhorn.

Mists continued to form and drifted across, concealing familiar landmarks; it would be no easy job finding Camp VI in a mist among that wilderness of slabs. Fortunately, two points on the north-east ridge which were directly above Camp VI showed now and then, and it was possible to estimate the general direction of the camp. My only fear was that I might be too low and might have to ascend. During the traverse I crossed the probable line of fall of Mallory and Irvine, but no further traces of them were to be seen. Suddenly I came across a shallow gully filled with snow. In the snow were footprints. It was the gully immediately above Camp VI, and there was the tent a few feet lower.

Shipton was there. He had descended without difficulty and felt much better. We discussed plans. It was decided that he should descend to Camp V, while I, who was feeling tired, should remain for another night at Camp VI and descend next day to Camp IV. It was about 1.30 p.m. when I returned to camp, and at about 2.30 p.m. Shipton set off for Camp V. The weather looked none too good when he left, and the wind was beginning to raise the new snow from the face of the mountain, but we did not anticipate anything worse for some time to come. It was about an hour later that a sudden and terrific storm broke. I was very anxious for his safety, and not without
reason, for it nearly cost him his life. At one point the wind was so frightful that further progress towards Camp V seemed impossible, and he nearly decided to try and struggle back to Camp VI. To have attempted this would have meant certain death, for no one could have traversed the slabs in such a hurricane. I feared for my own safety too, and momentarily anticipated an inglorious fall, wrapped in a winding-sheet of tent, down the mountain. But, thanks to the painstaking work of the first party in properly securing it, the stout little Burns tent weathered the fiercest blasts, though the fabric cracked like pistol shots alternating with a furious drumming as the snow-charged wind hurled itself against it. A peep between the flaps revealed a whirling smother of snow raging across the slabs. I felt thankful at having returned when I did. To have been caught in such a storm above Camp VI would have made descent impossible.

Towards sundown the wind dropped, and I ate my supper in comparative calm. It was a strange experience settling down alone for a night 27,400 feet above the world. But the loneliness of the hills is not to be feared.

It was 6 p.m. when I turned in, and it was not until 7 a.m. next morning that I awoke after the best night I had yet had above the North Col. During the night the storm must have continued and the wind-driven powdery snow penetrated a small hole that had been accidentally burnt in the side of the tent by the spirit cooker, and piled up in a drift extending nearly to the roof of the tent. The morning was the coldest that I ever remember, and it was not until the sun had struck the tent that it was possible to rescue the remainder of the provisions from the snow and prepare breakfast. After breakfast I packed my few possessions in my rucksack and set off for Camp IV. One backward glance I took at the little tent—the sole evidence of
man's handiwork on that most desolate and inhospitable mountain-side. It had served us well.

The weather was calm, and there was little movement among the sea of monsoon clouds beneath. This was fortunate, for the going was disagreeable. The steep scree masking the slabs of the traverse, and in places the slabs themselves, were thinly veneered with ice. It was the first time that this condition had been found on the upper part of Mount Everest. It may have been caused by the sun of the previous day warming the rocks so that the first snow that fell melted and froze while subsequent snow was blown clear; or it may have been due to wind pressure changing the snow into ice. The first explanation would seem the more likely one. It made extreme caution imperative, and it was galling to spend so much time with the risk of bad weather at the back of the mind.

Not far from the north-east shoulder the terrace petered out into slabs deeply covered with new snow. It was a place similar to the buttress on the western side of the great couloir, and every hold had to be searched for beneath the knee-deep floury snow. Presently, to my relief, I was able to gain more broken rocks which, owing to their steepness, held less snow than the slabs. The way now was obvious and easier, and I paused for a breather. As I did so, I was aware of a curious fuzziness approaching from the west. Before there was time to realise what it meant, a gust of wind of such strength struck me that I was nearly blown from my holds. Then came another gust and another, and in less time than it takes to write this a terrific storm was raging. Somehow or other I managed to descend the rocks to easier ground. Protected though I was by a woollen balaclava helmet and an outer windproof helmet, it was impossible to face the wind for more than a moment or two, for goggles soon iced up and the driving snow stung like
whiplashes. It was fortunate that the easier ground was gained when it was, for the wind continued to increase in velocity, quickly reaching a strength that I had never before experienced on a mountain. Often I was reduced to crawling on hands and knees, and even so I was several times swept from my balance but managed to stop a fatal slide with my axe. The air was filled with driving snow, and it was seldom possible to see more than a yard or two. The whole hate and fury of Everest were concentrated on one miserable little human being.

Somehow, I do not quite know how, I managed to keep going; but the struggle could not be kept up, for if the wind was of hurricane force the cold was proportionately great. It did not merely numb the extremities, it seemed to clasp the whole of me in its grip, and for the first time in my life I felt a deadening numbness creeping up my body. And then, unexpectedly, I found myself close to the crest of the north ridge at the identical spot where Shipton and I had found shelter on the way up to Camp VI. Crawling over it, I half climbed, half slid down to the ledge where we had sat on the lee side. Providence was kind to me that day. The ledge was completely windless and the change was magical. Even the warmth of the sun, which was dimly visible through the clouds of driving snow, could be felt. The horrid deadening feeling slowly left my body, and circulation returned painfully to my hands. Feet alone remained lifeless, and I was fortunate to escape with minor frost-bites on my toes. A few feet above me the wind roared across the crest of the ridge, striking the rocks now and again with a noise like a thunderclap, and sending the snow far out to leeward in twisting clouds. It was not until warmth and strength had returned that I decided to continue the descent. Had it been possible to stay longer on the ledge I should have done so, but
the complete disappearance of the sun suggested that the wind was the forerunner of another blizzard.

To follow the crest of the ridge was out of the question and, below the 1924 Camp VI, I climbed along the western side of it. At about 26,000 feet it was only blowing an ordinary gale, and visibility was so good that there was no risk of missing Camp V. I was about 300 feet above the camp when I first saw it, and almost simultaneously two figures emerged from one of the tents and started down. I shouted and waved, but they did not see or hear me. This was a disappointment, as I was by then feeling somewhat weak and tottery about the legs. However, there was the camp and its welcome shelter, and as quickly as possible I continued on down the slabs. Keeping too far to the west involved me in some awkward climbing on some outward-sloping slabs—easy enough to a fresh man, but not to an almost exhausted one. In one place some half-dozen steps had to be cut in a slope of hard wind-blown snow, and it was all I could do to cut them.

Another disappointment awaited me at the camp, when at last I got there, for the tents had been collapsed. Birnie had considerately left a Thermos of hot tea in one of them, but it did not occur to me to look for it. I decided to continue the descent to Camp IVa. Save for my legs, which had an unpleasant habit of giving way under me every few yards, I felt quite fit and confident of reaching it.

The wind decreased steadily as I descended, and was no longer dangerous. Below me on the ridge of snow and rocks Shipton and Birnie were visible. Presently some figures emerged from the arctic tent on the North Col and started to climb the ridge. An hour or so later I was being greeted by Longland, who, in spite of his tiredness after his great effort in establishing Camp VI, had climbed quite 1,000 feet to meet me. I was
so slow that he had had to wait a long time, and he was slightly frost-bitten. He brought with him a Thermos flask of something hot and stimulating, so stimulating that I needed no help in descending to Camp IVa. In addition to Longland, McLean was in support at the camp, and neither Shipton, Birnie nor I are likely to forget the superb meals he cooked for us, or the trouble he took in overhauling our hearts and in generally seeing to our comfort. It is memories such as these that help to make Everest very much worth while.
CHAPTER NINE

The Third Attempt

News was not so very long in coming to us at Camp III. We had been too busy ourselves on June 1st to indulge in unprofitable speculation. But the 2nd brought renewed anxiety. A lovely morning turned rapidly to a stormy noon, as a tremendous gale came up from the north-west. I could scarcely hope for a telephone message from the North Col while this lasted; but towards evening the indomitable Longland fought his way from Camp IVa to the telephone box on the crest of the Col, to send the news that Smythe, Shipton and Birnie were safely down. Our first feeling was of relief rather than disappointment at the failure of the second assault. It had seemed that nothing could live on the north ridge through that gale; and three men had had to descend it, one of them alone. For details we should have to wait; it was all that Longland could do to give us the outline before running for shelter.

So, for the first time, we must return to the Base Camp. Not one man could possibly be fit for an immediate renewal of the assault. But from what I had seen of the condition and spirit of the party I had reason to hope that, if this were what we call in India the “chhoti barsat” (literally “small monsoon”), and if it were followed, as often happens, by a break
of several days, an early return and fresh attempt were not out of the question.

Early on the morning of the 3rd signs of movement were seen along the crest of the North Col. Through the telescope I could distinguish Shipton in the lead, followed by McLean. The latter seemed to have broken down, and considerable difficulty was being experienced in getting him along the narrow crest and down the fixed ropes. The others, climbers and porters, were coming along with no sign of fatigue. Shebbeare went up to the crest to meet them from Camp IIIa. About two hours later Shipton walked into Camp III by himself. I had gone out some little distance to meet him, and saw that something was wrong. He hardly seemed to know me, or to realise what he was doing. I soon got him to bed, where he suffered much from headache throughout the afternoon and ensuing night. How far his condition was the result of hardship on the mountain or of slight sunstroke was never fully established. Smythe strolled in, looking completely unruffled and untired. Longland was obviously fine-drawn, but still very much on the spot. Birnie, limping from his strained leg and frost-bitten feet, looked a mere shadow of his old self. He had spent a total of eight nights at Camp V, losing much weight and strength in the process. Just as darkness was coming on, McLean staggered in, half-carried by two porters. He was fairly "down and out." Tewang and I got him into a Meade tent, with hot drinks and a supply of oxygen. His feet and hands were rubbed, and he presently dozed off. The North Col is not a health resort for everybody. Meanwhile Smijth-Windham and Brocklebank had considerately vacated the single arctic tent, to make room for the climbers; the former setting off for the Base Camp and the latter occupying a Meade.

All except McLean crowded into the arctic tent that eve-
ning; and what an evening it was. Would that a Conrad had been there. The wind roared outside, and snow lashed the tent. We listened to tale after tale of bitter, gale-swept ridges; of frozen camps; of desperate ventures along smooth, downward-shelving ledges, where life sometimes depended upon the friction of a single bootnail on the rock; of treacherous snow; of slips corrected only just in time; of upward toil when every nerve in the tired body called for a halt; all so quietly told that conscious effort was required to realise that these men had forced themselves to the very limit.

It was sad to reflect how near those two climbing parties had gone to success. Neither had had that little bit of luck with the weather which might have made all the difference. Wyn Harris and Wager, in spite of their dual objective, could have made far more rapid progress on dry rock. Smythe had made a wonderful single-handed effort in conditions which never gave him a chance; and Shipton had been robbed, by that unlucky seizure, of the full share in the attack to which his skill and strength entitled him. Yet with the sadness was mingled profound relief that we had them all safely down with us again. Both Wyn Harris and Smythe had come very near to catastrophe, as already described. Shipton, weakened by illness and by his battle with the wind, was nearly lost in the course of his descent from Camp VI, when a patch of snow on to which he lowered himself by his hands from a ledge slipped away, and he only just had strength to pull himself back.

Truly the spirit of man is unconquerable. Here were the climbers, just down from a devastating struggle with Nature in her worst moods. Yet, their story told, they eagerly discussed plans for a fresh assault, asserting that they only needed a few days' rest and would then be ready again. It was not a question of a single act of hot-blooded courage, but of slow,
dour, long-continued advance against the tremendous defences of the mountain. I felt very proud of my companions.

There was some difference of opinion as to where the much-needed rest should be taken. The Kharta valley, five marches from the Base Camp, was suggested; but it was pointed out that this would take us too far from the mountain, and that we should miss our chance if a break in the monsoon occurred. In view of their splendid keenness, I agreed that at least some of the men should be allowed to try again, but stipulated that Greene's opinion should be taken at the Base Camp, after a thorough medical overhaul.

There was a pathetic humour after the departure next morning, when assertion and hard facts came into collision. Smythe went off down the glacier with his usual long, easy stride. Some staggered rather than walked. Birnie could hardly move, though he indignantly refused a porter's arm. Shebbeare and I decided to stay on one more day, to help McLean down on the morrow, and to give Shipton more time to recover from his headache. The weather, having seen us off the mountain, was now bright and warm, but Everest was white up to the summit. Little did we think that not one man would reach the North Col again.

McLean needed much help on the way down, but Shipton was rapidly recovering his form. He and I travelled down to Camp II together. We stopped to give an occasional hand to McLean among the crevasses, and Shebbeare saw him safely into camp. We found the trough, which we had not seen for weeks, much changed. The seracs, affected by the sun and the monsoon air-currents, were slowly settling down on their bases. One or two had fallen. The trough had much water in it, and Havildar Lachman Singh, with good mountaineering instinct,
had worked out an excellent route along its left bank and across the glacier.

At Camp II we found Birnie suffering from his frost-bitten feet and obliged to yield to the logic of facts. The expedition stretcher had long ago ceased to function; necessity became the mother of invention. A porter's tubular steel frame carrier, used for the transport of provision boxes, was produced and a seat constructed from interlaced "nawar" tape. This was padded with a pillow; even stirrups were made from the tape. Next morning, amidst much chaff, the stalwart Jingmi shouldered the contraption, and Birnie was hoisted on to the most remarkable saddle of his experience. He sat facing the same way as Jingmi, with his arms round that sportsman's anything but sylph-like neck; and the procession started. The way along the moraines below Camp II is rough in the extreme. Shipton and I walked in front, giving support at awkward places and dislodging loose boulders. Jingmi took it in turns with three other porters, and gave a wonderful exhibition of strength and balance. Shebbeare, Shipton and Birnie went straight down to the Base Camp. McLean meanwhile made even slower progress, supported by another man, and completed the journey to the Base Camp next day, much of it in tow of my ice-axe. The evening before, at Camp I, we had a most amusing welcome from little Bahadur Gurung, the Gurkha corporal. For weeks he had eaten his heart out at Camp I, of which he was in charge. Though doing his duty to perfection, he longed for adventure, for a climb on the mountain. I promised to try to take him at least as far as Camp III next time, and he cheered up. Together we made a wonderful causeway across the now swollen glacier stream, to enable McLean to cross. We splashed each other and the porters, and generally behaved like school-boys.
A queen among the lesser peaks, Pumori's snowy cone is seen here from North Col, its shoulders encircled by a few wisps of clouds.

With blizzards, snow and terrible cold, nature guards the summit of the world's highest mountain. This view of the ice-covered southeast face of Everest was taken from the summit of the neighboring Rapiu La.
The highest point reached by Wyn Harris and Wager in their final dash for the summit of Everest is marked by the cross. At the left, only a thousand feet above, is the still unconquered summit.
The Base Camp on June 7th was very different from the dreary waste we had left in April, or the still drearier waste above. McLean and I took five hours to reach it from Camp I, but that made its welcome perhaps all the pleasanter. The sun shone brightly. Little cushion flowers appeared everywhere, and the blue gentian. There was even grass. The ice, where the porters used to toboggan about all day on a sledge intended for invalids, had given way to a sheet of blue water in which the white summit of Everest was marvellously reflected. Here were Karma Paul, our interpreter, and Jemadar Gaggan Singh (recently promoted in his regiment), Treasury Officer, and the smiling "tigers," now thoroughly rested and ripe for mischief. Wild blue rock-pigeons strolled about between our feet; choughs and linnets were everywhere; the great lammergeier, with his seven-foot span of wing, hovered overhead. Burhel, the blue sheep of the Himalaya, usually so timid, grazed on the moraine a few yards away. Life is sacred in the Rongbuk valley, and the presence of man inspires no fear.

Old Tencheddar, our senior cook, lost no time in mere welcomes. He was out to celebrate the occasion. He had more or less fresh mutton, brought from miles away, potatoes and eggs from Sola Khombu, wild nettles, carrots, even a few onions. In a leaky black Tibetan tent he was hard at work, beaming with satisfaction. He produced a banquet which lingers in the memory, and invaded the mess tent to see that it was appreciated, hopping in ecstasy from one foot to the other in the tiny ante-room.

Greene asserted that he was now quite well again. He had doctored all the porters as they came down off the mountain, and disciplined them when their native exuberance got them into mischief. He had employed his spare time in the construction of a wonderful swimming-bath, a thing of beauty.
But when I say that the climate of the Base Camp was now balmy, I must exclude the temperature of the water. We all did bathe, after the many weeks of abstention higher up, but in our respective tents. So far as I remember, only Greene (who must necessarily put to use the work of his hands), Long-land and Thompson plunged, like the enthusiasts of the Serpentine, into the pool; and even they came out of it as corks out of a bottle.

We never quite realised how thin we had become on the mountain until bathing marked the renewal of comparatively civilised existence. One member remarked, "The first time I saw my knees again I had quite a shock; they looked so knobbly." There can be no doubt that a great deal of wasting occurs as a result of prolonged residence at high altitudes.

This "rest" at Base Camp was a figure of speech, for there was plenty to do. A mail came in. Letters had to be written, despatches sent off. A strong south wind was blowing, and Everest grew daily whiter; but we argued that a break must occur before long, and busily prepared for fresh endeavour. The argument was once more raised that we ought to go down to the Kharta valley for a more thorough rest at lower altitudes, and come up again in July or August, whenever the monsoon should show a sign of weakening. I never quite liked the idea. One could have no certainty of a weakening in the monsoon, and there was the psychological factor to consider. The spirit of attack was still strong in the party, but would it remain so during a long period of inaction? Moreover in the Kharta valley we should be too far from the mountain to take instant advantage of a fine spell. I felt that we were recuperating well at the Base Camp, and had better stay there for the time being.

The wireless section piled Pelion on Ossa. Not content with
The Base Camp on June 7th was very different from the dreary waste we had left in April, or the still drearier waste above. McLean and I took five hours to reach it from Camp I, but that made its welcome perhaps all the pleasanter. The sun shone brightly. Little cushion flowers appeared everywhere, and the blue gentian. There was even grass. The ice, where the porters used to toboggan about all day on a sledge intended for invalids, had given way to a sheet of blue water in which the white summit of Everest was marvellously reflected. Here were Karma Paul, our interpreter, and Jemadar Gaggan Singh (recently promoted in his regiment), Treasury Officer, and the smiling "tigers," now thoroughly rested and ripe for mischief. Wild blue rock-pigeons strolled about between our feet; choughs and linnets were everywhere; the great lammergeier, with his seven-foot span of wing, hovered overhead. Burhel, the blue sheep of the Himalaya, usually so timid, grazed on the moraine a few yards away. Life is sacred in the Rongbuk valley, and the presence of man inspires no fear.

Old Tencheddar, our senior cook, lost no time in mere welcomes. He was out to celebrate the occasion. He had more or less fresh mutton, brought from miles away, potatoes and eggs from Sola Khombu, wild nettles, carrots, even a few onions. In a leaky black Tibetan tent he was hard at work, beaming with satisfaction. He produced a banquet which lingers in the memory, and invaded the mess tent to see that it was appreciated, hopping in ecstasy from one foot to the other in the tiny ante-room.

Greene asserted that he was now quite well again. He had doctored all the porters as they came down off the mountain, and disciplined them when their native exuberance got them into mischief. He had employed his spare time in the construction of a wonderful swimming-bath, a thing of beauty.
But when I say that the climate of the Base Camp was now balmy, I must exclude the temperature of the water. We all did bathe, after the many weeks of abstention higher up, but in our respective tents. So far as I remember, only Greene (who must necessarily put to use the work of his hands), Longland and Thompson plunged, like the enthusiasts of the Serpentine, into the pool; and even they came out of it as corks out of a bottle.

We never quite realised how thin we had become on the mountain until bathing marked the renewal of comparatively civilised existence. One member remarked, "The first time I saw my knees again I had quite a shock; they looked so knobbly." There can be no doubt that a great deal of wasting occurs as a result of prolonged residence at high altitudes.

This "rest" at Base Camp was a figure of speech, for there was plenty to do. A mail came in. Letters had to be written, despatches sent off. A strong south wind was blowing, and Everest grew daily whiter; but we argued that a break must occur before long, and busily prepared for fresh endeavour. The argument was once more raised that we ought to go down to the Kharta valley for a more thorough rest at lower altitudes, and come up again in July or August, whenever the monsoon should show a sign of weakening. I never quite liked the idea. One could have no certainty of a weakening in the monsoon, and there was the psychological factor to consider. The spirit of attack was still strong in the party, but would it remain so during a long period of inaction? Moreover in the Kharta valley we should be too far from the mountain to take instant advantage of a fine spell. I felt that we were recuperating well at the Base Camp, and had better stay there for the time being.

The wireless section piled Pelion on Ossa. Not content with
wireless telegraphy, in itself a sufficient miracle in this stormy wilderness, they went on to wireless telephony, and conversations passed between the Base Camp and Darjeeling, much interfered with at times by atmospherics, but usually intelligible. It is impossible to speak too highly of the work done throughout the expedition by Thompson and Smijth-Windham. They laboured early and late, sometimes all night; they were supremely competent and ever alert for improvement or improvisation. Working in circumstances of the greatest difficulty and hardship, they never failed to deliver the goods. In addition they were the very best of good companions, considerate and unselfish. None played better for the side than these two.

Greene now constituted himself a Medical Board, and passed our hopeful candidates under review. Smythe was passed with credit. Except for some loss of weight, he appeared to be as fit as ever, his heart quite unaffected by high ascents. Shipton was still practically speechless from laryngitis, but otherwise quite strong. Wyn Harris’s heart had regained normal proportions and, so far as could be seen, he could go high again. Longland put up a great performance in the viva voce, and scraped through. Crawford and Brocklebank, once acclimatized, had never looked back, and were now full of energy. I was passed sound, but strictly enjoined to consider my age. The Medical Board made a pretence of sitting in judgment upon itself, but the result was a foregone conclusion. A medical officer would be required above, and no more need be said. Wager, whose heart required a longer rest, would have to remain for the present at the Base Camp with Shebbeare and Smijth-Windham. Thompson, who had not yet had a chance of going up the glacier, would work the wireless at Camp III.
Birnie at Camp II had courageously discussed the possibilities of renewed attack, but he had really shot his bolt and would not recover till lower altitudes were reached. He must now go down with Wood-Johnson and McLean to Tashidzom, three marches away. Wood-Johnson’s gastric ulcer called for careful nursing and an early return to Darjeeling; McLean had developed a patch of bronchial pneumonia. It was hoped that a few days’ rest at Tashidzom would sufficiently fortify these three to continue the march home. With them would go the frost-bitten porters and others who were no longer fit for hard work. We had called our ponies up for inspection. Their condition was very poor, but under Birnie’s expert care they would recover. We saw the invalids off on the morning of the 12th. Poor Wood-Johnson, very much down in the dumps, remarked to Shipton, “I mind leaving Base Camp the less because you will never climb the mountain now, it’s the weather”; only to receive the shattering reply, in a husky whisper, “I never thought of that!”

During all this time snow continued to fall heavily on Mount Everest, reaching the Base Camp on some days. We decided to make Camp III our base of operations for the rest of the month, and so be in a position to take advantage of the first opportunity. Crawford and Brocklebank pushed off on the 11th with the first relay of porters. Their purpose was to examine the North Col slopes and, if possible, re-stock Camp IV. Shipton, Longland, Greene and I followed on the 13th with nineteen men; Smythe and Wyn Harris left on the 14th. Longland was now suffering from diarrhea, and Greene’s heart had obviously not completely recovered, but neither would give in. Havildar Lachman Singh and Naik Bahadur Gurung, full of enthusiasm, came up with us to Camp II, the appearance of which was rapidly changing. It now boasted a quite consider-
able lake, formed by the melting of ice. It was much warmer than during the bleak days of April.

The main trough had long stretches of water in it, due to the same cause. We found that Crawford and Brocklebank had worked out an effective route through the seracs which brought us out on to the left lateral moraine, and thence back through more seracs to the open glacier beyond the trough. The snow here was in very fair condition to walk on, but the wind was driving it up into our faces, and Everest was almost invisible as we approached Camp III.

Smythe and Wyn Harris came up very fast to Camp III on the 16th, accompanied by the two Gurkhas. We had just settled down when Crawford and Brocklebank returned from their tour of inspection. Their report was not encouraging. They had ascended nearly to the big crevasse, finding the ropes buried eighteen inches under snow. A lot had come down from above. Only half of the rope-ladder on the ice-wall could be seen. Further advance would be, of course, dangerous if not impossible for a considerable time. Even if the North Col could be reached, the whole north face was still draped in snow, which would mean hopeless conditions on the slabs. We still hoped that wind or sun, or both, might come to our rescue.

Meanwhile Camp III could be held for at least a fortnight, provided that a close watch was kept upon our kerosene supply, which was now running short. More had been ordered from Darjeeling. Once he gets a Primus stove going, the Sherpa cook never dreams of economy.

Argument seems to be the chief by-product of sojourn in high camps. It raged from shining morn till snowy eve. Shipton is a Kenya settler, Wyn Harris a Kenya Government officer. What more could you want? Breakfast over, they settled down happily to mutual vituperation. A careful analysis of official
conservatism, lack of sympathy, and general incompetence was met by a formidable catalogue of crime and of indifference to native interests. Lunch merely added fuel to the flame. Lofty invective gave way to the grossest personalities. On the slightest sign of flagging, Crawford or Longland would contribute some provocative and unfounded assertion which provided a fresh stimulus, what time a distracted leader was endeavouring to write a despatch and compose telegrams of serious import to the Political Officer in Sikkim or to the Meteorologist at Alipore. Needless to say, neither side was ever convinced, or ever will be. But the spell-bound audience could not complain of lack of entertainment.

Then the Rapiu La had to be visited, less than an hour's walk southwards across the glacier. Crawford, Shipton and Brocklebank went there on the perfect morning of the 18th, and returned with such glowing accounts of the view that they persuaded Smythe and me to return with them next day. We were up soon after 4 a.m., and left Camp at five. Weather conditions looked doubtful, but fortunately we persevered, to be rewarded by the greatest mountain landscape of my experience. To the right was the enormous south-east face of Mount Everest, ice-clad from base to summit, and contained by the marvellously beautiful though terrific southern and north-eastern ridges, with their delicate ice-flutings. Before us rose the great mountains, Makalu and Chomo Lönzo, seemingly quite close. Far away to the south-east, among long-drawn clouds gold-coloured under the rising sun, was Kangchenjunga. We looked up at a snowy peak on our left, and thought that our view from its summit might be even better. It is 22,340 feet high, and unnamed. The snow was evidently deep and soft, and we agreed that each member of the party should lead for twenty minutes at a time, ploughing up the long slopes. It was
treadmill work, but worth while. As we had only one short length of rope with us, the leading couple of the moment roped up, in case there should be any trouble on the crevasses ahead. But they were well bridged. I remember one marvellous view, about halfway up. In the foreground was a large crevasse, its icy depths filled with delicate blue and green mist. The line of fissure ran straight away from us to the edge of the slope, and beyond was the great mass of Makalu, ridge upon ridge of shining ice or dark rock, alternately hidden and revealed as the clouds passed by on their way to Everest.

In two hours and forty minutes we were on the summit. I paid Smythe out on the rope as he crawled carefully to the eastern edge, probing with an axe for cornices. Then we all sat down to take in the proportions of that colossal panorama. Mount Everest was now seen in better perspective, though the north-east shoulder partly hid the arête and the summit, and clouds were constantly gathering against the south-east face. Lhötse, the south peak, made a splendid buttress for the central mass. Avalanches were thundering down the face. The North Peak was almost unrecognisable, for the blunt head which we knew so well from the North Col ridge now showed a delicate, pointed summit, not unlike the Weisshorn.

We were rather a silent little party, for the sight of five of the world's highest summits does not promote garrulity. Then a rush of cold snow-laden cloud warned us to be off; we almost ran down the slopes, reaching the Rapiu La in half an hour.

Our only regret was that the others could not share our wonderful experience. Longland, Wyn Harris and Thompson had meant to come, but the two former clearly had not recovered from their exertions in May. Their appetite was poor and they slept badly. Greene, too, was far from well. The week's rest, effective as it seemed at Base Camp, was insufficient. Even
had the mountain suddenly and miraculously got into condition, it would have been difficult to organise an efficient attack. Of porters there was a sufficiency, keen and strong. I had held a little parade at Camp II to satisfy myself on this point. When I called for volunteers to go above the North Col, fourteen men stepped forward, including three of the old “tigers” and two enterprising Sola Khombu men. So far so good. Among the climbers, Smythe and Shipton could be relied upon to go pretty high, though there is no denying that they were not so fresh as they had been. Crawford and Brocklebank had improved out of all knowledge, and could probably go at least to Camp V; while I might hope to give support at the North Col. This gave us no margin of safety whatever, and no reserves. Still, given a chance, we should have tried.

But the weather, as always, had the last word. On the evening of our return from the Rapiu La heavy snow began to fall, and continued through the night. Next morning there were six inches of snow on the glacier. At 1 a.m. I had heard the first of a series of heavy avalanches falling from the north-east arête below the shoulder. Even before this we had observed that there was a daily fall of snow on the higher ridges, and that the sun of the morning seemed to have no power to remove it. Now the mountain could not in any circumstances recover condition for some weeks, and it was clear that we were wasting our time at Camp III. Also, a steadily growing theory had now become a practical certainty, that snow does not melt much, if at all, above 25,000 feet, and that the only agents of its removal are evaporation and the powerful western wind of Tibet, which is mostly in abeyance on the north face of Everest during the period of the monsoon and does not reassert itself before the end of September. The southern wind can, and does, attack the lower slopes, and this is one of the dangers of the
ATTACK ON EVEREST

North Col; but it cannot reach the north face, and no man can tackle those slabs while they are under snow.

Between the 21st and 23rd Camp III was evacuated. The last attempt had failed. We collapsed the tents and left most of the stores in position, just in case opportunity should occur again. If it did not, Shebbeare could come up and remove them. As we descended the extraordinary weather conditions of this year were once more apparent. An immense black mass of cloud to the north indicated trouble from that direction. Then, without the slightest warning, the wind changed and a bitter gale off the mountain chased us downwards. This time we used the upper part of the trough again, for the water had drained away. Longland, Wyn Harris and Thompson came down last, having contrived, after all, to visit the Rapiu La.

For some time past I had been in correspondence with Dr. S. N. Sen, the Meteorologist at Alipore, on the subject of the weather; and I had also consulted local opinion, in the shape of the old squire of Tashidzom, and a friendly hermit-Lama, temporarily back in the world of affairs. All agreed that Mount Everest was extremely unlikely to improve its condition before the autumn. Dr. Sen, in an admirably clear and concise telegram, gave scientific reasons for his opinion. The Tibetans, of course, relied on previous experience. They stated emphatically that the snow never disappeared till the approach of winter and the return of the west wind. The old head Lama, now busy organising a monastery away in the north, sent me a letter to the same effect, adding that, although he could not recommend to the Tibetan Government that we should be given permission to return another year, he would place no obstacles in our way. As these opinions tallied with our own theory, there seemed to be no alternative but to retreat. I telegraphed to the Mount Everest Committee, suggesting that
the main body should come home, leaving Shipton, Wager and Smijth-Windham, at their own request, to study weather conditions till at least the end of August. Then came a wire from Williamson, the Political Officer in Sikkim. He pointed out, reasonably enough, that, as great difficulty had been experienced in obtaining permission from the Tibetan Government for this year's expedition, it would not be wise to count on a renewal of it for another year, though he would do his best for us when visiting Lhasa in August. It might be as well, therefore, to stay on and try our luck once more. I communicated this also to the Committee, adding that Smythe, Shipton, Crawford, Brocklebank, Greene and I were fit for another attempt. Naturally it was difficult, within the limits of a cablegram, to review the whole situation, but the Committee included among its members three who had previous experience of Mount Everest; it was therefore able to form a pretty shrewd estimate of future possibilities. Funds were short, the expedition had now only the barest minimum of climbers available, the season was apparently an abnormal one and unlikely to improve, and lastly, the existing friendly relations with Tibet made a renewal of permission at least reasonably possible. After a full consideration of the position, a cablegram was despatched to me, recalling the expedition. Of the wisdom of the order I have never felt the slightest doubt, for the weather never improved during our return march. If anything, it deteriorated. Great masses of dark cloud continued to gather in the west, and I felt sure that Mount Everest would remain, at least till the end of September, the snow-clad peak to which we bade farewell on July 2nd.

The inevitable disappointment was greatly mitigated by many messages from home, including a most gracious telegram
of sympathy and encouragement from His Majesty the King. We could still look to the future.

Shebbeare and Wager, with porters, had already gone up to Camp III and were standing by for orders. If another effort was to be made they would re-allot stores in accordance with requirements. If not, they would evacuate all camps below the North Col, making caches for such as could be of no value below and bringing down the remainder. During this period of waiting they visited the Rapiu La and the lower slopes of the North Col, and made an interesting ascent to the Lhakpa La. The North Col slopes were found to be still deep in snow, but Wager considered that the lower part could be ascended in moderate safety. Still the fixed ropes were deeply buried, and the ladder on the ice-wall was probably out of commission. A warm current of air from the south would wreak havoc. It was out of the question to retrieve anything from Camp IVa or the camps above it. I sent a couple of men up from the Base Camp with the news of recall, and the work of evacuation began.

All now prepared for the return march. Transport animals were asked for from Shekar, and supplied with commendable rapidity by the friendly Dzongpen. Stores and equipment had to be carefully sorted; some for the march, some for storage at the Rongbuk monastery. Anything of which the value would not justify the cost of transport was to be sold, bartered, or given away. I am bound to say that our auctions, though intensely amusing, were on the whole unproductive. Tibet is a poor country, and its people care little for luxuries. Moreover they could afford to wait, while we could not. In the end a good many stores had to be given away. Men, women and children came up out of the blue, like vultures to a feast; and pandemonium raged when a few odd tins were thrown to the multi-
We used to line up the competitors on the moraine side, while the tins were piled on a store box below. At a given signal, a human spate descended furiously—the devil take the hindmost. But they were a good-tempered lot, who seemed to enjoy the scrimmages as much as the spectators did.

We kept the astronomical telescope mounted on its tripod till the last moment, so as to keep a watch on the mountain. For some time we could see the little Burns tent still standing up bravely at Camp VI. Smythe had been unable, single-handed, to collapse it. The weather on Mount Everest was now appalling—even at the Base Camp we had some heavy rain and sleet; and one morning the tent could no longer be seen. Snow had either entirely covered it or, more likely, carried it down in an avalanche.

Lest there should be any moping, Longland contrived to have a birthday on the 26th, and all hands set to work to celebrate it. Tencheddar and I, in secret conference, evolved a birthday cake, with as many candles as it could accommodate. Our small stock of champagne was brought to the surface. It had been intended for another kind of celebration, now, alas! impossible. Tencheddar's banquet was a masterpiece, a work of art. Shipton, finding himself able to speak after many weeks of enforced whispering, was in his very best form, which means much. Stirrings without, and a good deal of giggling, indicated that the porter-corps was in attendance. A cipher wireless telegram from Williamson was handed in. Regardless of flying missiles, the "Bijliwalas," otherwise the Royal Corps of Signals, decoded it without a qualm. The health of the absent Shebbeare and Wager was drunk from what should have been their share, with the specious argument that one small bottle was not enough for them. Champagne, by the way, is very difficult to manage at a height of 16,800 feet. Atmospheric
pressure being so low, a large proportion of the wine follows the cork up to the ceiling. Supplies soon came to an end, but it had been a jolly evening.

By July 1st long strings of pack animals began to appear from the direction of Rongbuk—yaks, ponies, mules and donkeys. The Base Camp became a populous village for the moment, but the grazing was insufficient to allow of a long stay. On July 2nd began the usual, and seemingly interminable, wrangles which mark the first stage of a march in Tibet. The Shekar Dzongpen had sent some of his staff to keep order. This they signally failed to do. Our expedition boxes were ready, laid out in orderly lines. Equipment, carefully packed, was easily accessible. The sardars Lewa and Nursang allotted everything in suitable loads. It was no good. The Tibetan drivers must have their fun first. They collected in little knots, arguing furiously about nothing at all. They lifted loads and put them down again, generally in the wrong place. The Dzongpen's senior representative, armed with pen-case and paper, went from group to group writing feverishly, but with no result. Our porters kept off the many prowling buccaneers.

In any case, we could only reach Rongbuk, four miles away, that evening, for Chödzong, the next stage, is another fifteen miles on. But the long and inevitable delay was annoying. We helped to take down the wireless equipment, leaving Karma Paul, with his unrivalled energy, to produce order out of chaos. He has a wonderful way with his countrymen. It was all a question of making a start. A favourite excuse was that more animals were still expected. They were invariably to be found grazing peacefully round some corner, while their owners enjoyed themselves. Once half a dozen were loaded up and despatched, the rest gradually followed, protesting to the last.

By slow degrees, the Base Camp, so long our headquarters,
was emptying. With the fall of the mess tent, our most prominent landmark, we felt that the end had indeed come. Soon the hermit on the moraine above would be left in peace. The birds and the burhel would disperse. Silence would again fall upon this desolate region, save for the rumble of the glacier river and the whistle of the wind. Clouds were gathering round Mount Everest, seeming to say "the curtain falls." Should we ever raise it again?

I do not think that we felt any vain regrets. We had done our best. Human endeavour alone is not enough. Some measure of good fortune must attend the climber who would set foot upon that distant summit.

Shebbeare and Wager were not yet down from Camp III, but we could not wait. Transport charges were mounting up, and the baggage animals would get no adequate grazing before Chödzong. Greene, Crawford and I were among the last to go. As we turned the corner of the moraine we had one more look at Mount Everest. Then the clouds came down for good. We had done with it all.
CHAPTER TEN

The Return

Rongbuk had been uncomfortable enough on April 16th. It was very little better on July 2nd, in monsoon conditions. A furious south wind raged through the camp, and for some reason Ondi and his associates had pitched the mess tent exactly in the best direction for receiving it. Even Tencheddar could do nothing with his fire, and tea seemed a long time in coming. Try as we might, it was difficult to keep a cheerful countenance that evening. I suppose it was the change from attack to retreat which affected us. We could not even argue with the old spirit; there was not much left to argue about.

Next morning some of us paid a farewell visit to the monastery. Our old friend the head Lama was away, at work on his new charge. His representative was polite but uninteresting. Mount Everest was invisible. We arranged for the storage of a few things which might be useful on a future occasion, and left. Rain fell heavily at times during the march; there could be no doubt about the strength of the monsoon. Life was stirring everywhere, even in this bleak valley. Grass pushed its way up among the stones. Cushion flowers, blue gentians, and the beautiful little Incarvillea Younghusbandi, with its trumpet-shaped, red flower not two inches from the ground,
appeared in all directions. Birds and insects were on the wing. The sun came out at intervals, and things did not seem so bad after all. The sight of real fields of grass at Chödzong was a wonderful pleasure. Smythe must have suffered a good deal during this march, as the nails of his frost-bitten toes were beginning to come off; but he complained not at all, and unfolded all sorts of plans for climbing the mountain next time. He had a theory that the north face of Mount Everest and the great couloir might be traversed at about the level of Camp V, and that a direct ascent might then be made up the rocks towards the final pyramid; thereby avoiding the worst part of the slabs on Norton's route.

The rain redoubled its energies during the evening and Chödzong, for all its pleasant meadows, was more than a little damp. Smythe had volunteered for the duties of mess secretary. With pencil and list he inspected the loads as they came in, only to find many things missing. It was impossible to keep an eye on everything among the crowds at the Base Camp. Pilfering may have taken place, or possibly the missing articles were dumped by mistake at the Rongbuk monastery. We had to make the best of it, and anyhow we never went short.

Here I received news from Birnie that he had not been able to make a start from Tashidzom owing to the condition of the invalids. McLean had intimated that another five days must elapse before he and Wood-Johnson would be fit to travel. This would seriously affect the transport problem. Our party had promised itself a pleasant few days in the Kharta valley, where transport must be changed. "Father William," the old Tibetan friend of previous expeditions, made lavish promises of facilities. We intended to leave out Shekar Dzong on the return march, and to proceed direct from the Kharta valley to Tengkye Dzong. Now it was evident that Greene
and I must go to Tashidzom while the rest branched off from Chödzong, over the Doya La, to the Kharta. This splitting up of parties during a march always involves a good deal of work, and it was not till 11 a.m. next day that Greene and I were able to start, leaving a letter requesting that Shebbeare and Wager should follow us. The others, after securing fresh transport in the Kharta valley, would follow it up northwards, and we with Birnie and the invalids would meet them at Lungme.

The drawbacks to travel in Tibet during the months of March and April are cold, wind and dust. In July it is the rivers that impede progress. The Tibetan bridges are few and far between. Where in April there had been a shallow, easily-crossed stream, there was now a strongly-running river, swollen by the melting ice of the Rongbuk glacier. Muddy and turbulent it rushed along, turning over the boulders in its bed with a sinister rumble. The transport drivers led us three miles down-stream to a point where a little island divided the waters. Opposite was a tiny village, the men of which were ready to help. With linked arms they staggered across, waist-deep, and then our ponies, two men holding each bridle, were led cunningly through the ice-cold torrent. How they kept their feet among the moving boulders I do not know.

On the other side the rain came down in blinding mist, from which suddenly emerged the familiar form of the old squire of Tashidzom. The friendly old gentleman had already paid us a visit at the Base Camp; he now saved us much time by piloting us across flat country intersected by full water-courses.

Half a mile from Tashidzom we met Birnie, looking very much better for his rest—if rest it could be called, for since June 12th he had looked after his two sick companions and
the frost-bitten porters, besides getting the ponies back into condition.

Tashidzom was a sight for sore eyes: the grass now ankle-deep, splashing little streams, and real willow trees. Lhakpa Chedi, Pasang Kikuli, the Pasang of the North Col crevasse, and Ang Tarke met us with beaming smiles at the entrance to the camp; and there was Chun-Chun, the quiet little cook who had worked so long and so well at Camp II. Wood-Johnson and McLean were pretty weak but ready to make the best of things. Greene overhauled them thoroughly and announced, to my intense relief, that we could make a start for Lungme, three marches away, the very next morning. Both Wood-Johnson and McLean would have to ride.

The old squire was most moderate in his charges for the keep of the expedition ponies during nearly three months. We bade him good-bye with sincere wishes on both sides for an early reunion, and he provided us with a guide for our journey, as the river would have to be crossed again. Shebbeare turned up just before we left, having come on ahead of the transport. He would follow us and rejoin at Lungme.

Instead of branching off northwards to the Pang La and Shekar Dzong, we now followed the river down to its junction with the Kharta River near Lungme. This beautiful valley was comparatively unknown ground, so the marches were of uncertain length, the map being vague and our guide still vaguer. We crossed the river again, with local help, to the grievous discomfiture of McLean, whose pony fell with him in a nice muddy pool. Wood-Johnson was suffering a good deal of pain, but kept going with commendable spirit. Every few miles there would be a charming little willow grove, with a Tibetan country-house and some rough cultivation. Great river terraces stretched far down the valley. Here, at only 13,000 feet, the
climate was perfect. Gone were the days of windproof clothing, of triple sweaters, goggles, helmets, puttees and climbing boots. Even the rain seemed warm, and we revelled in the frequent bursts of sunshine. It was another world.

At Lungme camp was pitched in open meadows, among boggy streams where more than one pony got mired. News arrived that poor old "Father William" had proved a broken reed. He was most anxious to assist, but transport is a perquisite of Tibetan Dzongpens and he was not allowed to work for us. Fortunately the Dzongpen in the Kharta was a man of character and humour, with whom Crawford and his party established a happy entente. He supplied a perfectly adequate transport and accompanied it to meet us at Lungme. His first question to Crawford had been, "Do you shoot?" Crawford, of course, expressed virtuous indignation at such an idea, for it had always been impressed upon us that shooting was not allowed. The Dzongpen approved of this sentiment, but immediately added that his ambition in life was to possess two Mauser pistols. Could we secure them for him? On his part he would devote all his energies towards getting us permission to enter Tibet again, and would be our friend for life. He was an efficient man, keeping his people well under control. He could only take us as far as Gatong, where a rope bridge spans the river; on the other side was another jurisdiction. He warned us against the other side. "They are the greatest thieves in Tibet," he said. Nursang was sent ahead to Kharkum to arrange for fresh transport, which he did with the greatest success, being thoroughly au fait with scoundrelism in all its branches.

A gale lasting two days at Lungme nearly flattened out our tents, but the Kharta valley party found us still standing on the morning of the 9th, and we all reached the rope bridge at
Gatong on the roth, and set about getting the loads across with such energy that about half of them were stacked by dark on the other side, under a strong guard to discourage the attentions of "the greatest thieves in Tibet." Meanwhile we camped on the near side. A slight diplomatic complication occurred when our porters found that a Tibetan had stolen an ice-axe. They neatly cut his head open for him, and Greene as neatly closed the wound. The Dzongpen's men demanded the punishment of the offenders. I replied, "Which offenders?" and asked for the return of the ice-axe. The matter was amicably settled.

The bridge consisted of two old tree trunks precariously set up among boulders on either side of the river, with four strands of yak-hair rope stretched between. On these ran a triangular cradle of wood. The passenger, or package, was attached by leather thongs to the cradle, and pulled across by a spare rope for a distance of about 30 yards. A number of Tibetans were in attendance to work the affair. Their own method of crossing was to cock one leg over the rope and pull themselves across by sheer strength of arm.

I had to take a risk with the expedition's ponies, and decided to swim them across the river. Otherwise they would have had to go a long way round, and this would have delayed the march.

The river ran strongly, swollen by the recent rain. Above the bridge was a series of rapids, but just below a stretch of comparatively smooth water, rather deep, offered a suitable place where the ponies could be swum across. This would have to be done carefully, for lower down there were more rapids. Smijth-Windham suggested the radial rope method, which was adopted with complete success. Men held a rope on the other side, close to the bridge. The end was brought
across and tied round the neck of each pony or mule in succession and the animal was driven into the water. The rope prevented it from being swept too far down-stream. It was amusing to watch how each animal adopted its own method of crossing. Some swam strongly, some were just dragged. One or two disappeared like submarines, to the distress of their owners. But in the end all crossed safely.

The packages seemed to be innumerable. The work went on all next morning, till after 1 p.m. The ever-fertile mind of Smijth-Windham evolved the horrible amusement of hurling large boulders into the river as each man was hauled across, helpless to defend himself from the splashing. Crawford escaped much by opening the umbrella, though it was not easy to keep this up and hold on to the cradle at the same time. Then came Smijth-Windham's turn, and nemesis. As he approached the bank the haulers were persuaded to cease from toil, and the victim remained in a state of suspended animation, at the complete mercy of his tormentors. Needless to say, the idea took on with the porters. They dealt faithfully by their comrades, and greatly delayed the proceedings. For the honour of the expedition, Wyn Harris and Longland crossed by the Tibetan method, amid the plaudits of the multitude.

There were still sixteen miles to cover before Khojak was reached, late in the evening. A powerful southerly wind helped all the way, as we followed upwards the left bank of the Phung-chu. In the distance could be seen the gaunt red and brown ridges overlooking the valley by which we had marched to Shekar Dzong. The long delay at the bridge made things difficult for our cooks, but they rose to the occasion, as they always did.

Nothing could be more remarkable than the variety of scenery through which the expedition was now marching; per-
haps the last thing one would expect on the Tibetan plateau. On this day we were in a river valley, traversing the broad flanks of a range of hills. On the next, there would be a plain with almost infinite horizons, seamed by slowly-flowing rivers. All different and all beautiful. Travellers have often remarked that there is no effect of distance in Tibet. In that clear air, far-off ranges look as near as their foreground. That is very true of conditions in the spring. But now, as the monsoon winds brought up cloud and mist, there came atmosphere. It needed an artist to depict those wonderful gradations of reds and browns, and the lovely misty blue of distant hills. The mere photographer, knowing the limitations of monochrome, could but marvel and stay his hand. Colour is everything during a Tibetan July.

Rungkung seemed a haven of peace after the roar of the river at Gatong. The wind had dropped, and at our feet flowed a broad and placid stream. Here Shipton and Wager left us, to find their way through unexplored country into Western Lhonak, and thence to the Lachen valley. They climbed a peak of about 20,000 feet in the Nijō Nori range, and made what we believe to be the first crossing of the Lhonak La, climbing the Lhonak peak en route. Later on Wager made some remarkable geological researches in the north of Sikkim.

The rest of us crossed the plain between Rungkung and Chushar, having to ford five branches of the river on the way. We passed virtuously by some “Danaos et dona ferentes,” in the shape of women from the notorious village of Gyangkar Nangpa, bearing pots of chang. Shankar-ri, now totally devoid of snow, towered up on the right. Farther to the south were the magnificent peaks of the Arma Drirni range, so imposing that we were almost persuaded, for the moment, that one of them was Makalu. Crawford and Brocklebank performed some
remarkable cavalry manoeuvres in chase of a hare; the porters upset each other into the water at the fords; and the sun shone upon the just and the unjust, while the midges displayed a similar impartiality.

Chushar is separated from Tengkye Dzong by a range which has to be crossed by a pass nearly 17,000 feet high. A sudden storm plastered the hills with snow, but this had all melted by the time we approached. There was some little difficulty about the water supply at Chushar, as Greene discovered that the spring used by the inhabitants lay at the bottom of a hollow shared by the drainage of the hamlet. He also discovered, near a more distant but better spring, some interesting freshwater fauna. In the course of the evening Wood-Johnson gave us a bad fright, when his temperature went up rapidly to 104°. Greene at once decided that he must stay over the next day with the patient, and Birnie volunteered to keep him company. The rest of us pushed on without delay over the pass to Tengkye Dzong, on the morning of July 14th, in order to pay off the Kharkum transport and negotiate for a fresh supply. Wood-Johnson was determined not to give in; he actually rode over the pass on the 15th. I had sent up porters with a stretcher to meet him. I regret to say that the attractions of Tengkye proved too strong for them and they were too late to be of service. It was one of the few occasions on which they neglected their duty.

Tengkye Dzong had changed much since we were there last. Always beautiful, it now had an added charm of green fields and running water. The lake was larger, but for some reason its usual tenants, the bar-headed goose and the Brahminy duck, were conspicuously few. Our sociable old friend the Dzongpen sent us a message full of sadness. Duty had called him away to investigate a murder case. Too bad, for he had
promised himself, and us, a merry reunion. His wife could not in the circumstances entertain us, but she came to call and did her best to see that we were comfortable. I have usually found in Tibet that when an official is away his wife is more than equal to carrying on his work, especially when it involves some business transaction. On this occasion the matter of transport was dealt with by the Dzongpen's Nyapala; a big, rather surly-looking, cross-eyed individual. I do not think that he was in the least hostile, but he was a little obstructive, mainly because he was not sure of his own position and wished to assert himself. In consequence negotiations were protracted, and Shebbeeare and I, with Karma Paul, had to do a good deal of arguing. The position was complicated by the fact that the party was now splitting up. Crawford and Brocklebank wanted to branch off directly southwards, to cross the Chöten Nyima La and rejoin the main body at Lachen; Longland and Thompson had to push on ahead via Karnpa Dzong, having engagements in India; lastly, we could not know until the last moment when Greene and Birnie would be able to bring Wood-Johnson over from Chushar, or if Wood-Johnson would be fit to resume the march.

However, in Tibet as elsewhere things sort themselves out if you have patience, and they did so on this occasion. A reasonable transport rate was agreed upon, and baggage animals appeared as usual from nowhere. But the main body, as well as Longland and Thompson, would have to go via Kampa Dzong, though we were not following the route of the outward march via Phari, but making for the Lachen valley to the south-east. The Tengkye Dzong authorities could only supply transport along the regular trade or postal route to Kampa. Evidently each administrative area in Tibet is a close preserve, as is natural enough where Government officials receive no pay
but, as in India before the British took over, "farm" their districts, taking a percentage of revenue collections and organising all transport as a private business. Crawford and Brocklebank had to rely chiefly on our own porters. With great difficulty they secured some local help to take them over the first stage or two of their march.

These halts at district headquarters are pleasant enough in their way. At intervals between diplomatic transactions one has time to write despatches, catch up with a neglected correspondence, and generally put one's affairs in order. At Tengkye Dzong some of us even bethought ourselves of a return to the observances of civilisation. Men would retire stealthily to their respective tents with an air of purpose. An hour later they would emerge very self-conscious, to greet each other with the remark, "I think we last met in Darjeeling." Their beards had gone, and they seemed strangers to one another. I am bound to say that most of us appeared very much the worse for the change. The shaven cheeks looked pallid and unnatural until a few days' exposure to the sun set things right.

I fancy that the local population expected a renewal of the fun and games which had been so attractive on the way out. But we were hardly equal to that. Baulked of this pleasure, some of them took to pilfering. Karma Paul lost his watch; articles of clothing disappeared from tents. A guard had to be set. One must suppose that an expedition like this presents an almost irresistible temptation to the wilder spirits. When not engaged in getting something for nothing, they endeavoured to sell us their trinkets—rough charm-boxes, rings, spoons, and so forth, some of which were of considerable artistic merit. In the end we understood each other pretty well and parted on good terms. The Dzongpen's wife came down in all her finery to bid us farewell. On her head she wore a magnificent semi-
circular hoop, into which her hair was braided, and she was covered with miscellaneous jewellery. She read us quite a little lecture about taking care of ourselves, advised us to give up the foolish sport of mountaineering, and then expressed in the most cordial terms her hope that we should meet again. I hope we shall, for she is a lady of merit. Besides, I do not know what her husband will do if another expedition does not go and cheer him up in his lonely district.

The plain between Tengkye Dzong and Lingga was now a series of marshes, through which it was by no means easy to find a way. Greene and I, convoying Wood-Johnson, got too much to the left, and spent a hectic morning while our ponies floundered among the bogs and fell into water-holes. It was enough to kill Wood-Johnson, but the worse things got the more he laughed. Two porters, one of them a Tibetan with some local knowledge, came to our rescue, and we reached Lingga in time for a late lunch, covered with black mud and nearly as tired as our ponies.

The place was alive with birds, and the people were friendly, but an entire case, in which Greene had packed more than four hundred specimens of Tibetan insects and other fauna, was removed during the night. I hope the thief drank the raw alcohol in the bottles. Karma Paul organised an elaborate witch-hunt, without success. He employed every threat which occurred to his fertile imagination, from aeroplanes to visitations of smallpox. The village headmen, and especially the women, were visibly shaken, but the property was never recovered.

Greene spent a busy afternoon digging out a molar which McLean disapproved of and did not wish to keep. We basked in the sun, and watched the storms circling round to the south, where our path lay over the Sebu La. There was promise of a stormy crossing.
ATTACK ON EVEREST

For the eighteen-mile march to Kampa Dzong we had a perfect day. The Dzongpen was still at Lhasa, but his wife had returned and, true to type, was thoroughly prepared for business. She had already imposed upon Longland and Thompson a charge of three rupees per transport animal per stage. They could not afford to stop and argue. We could, and did. Shebbeare and I, with Karma Paul, paid our official call in the evening. The formalities were soon over, but business was another matter. I think that both sides quite enjoyed themselves. It is axiomatic in Tibet that negotiations must be carried on with resolute politeness. The most outrageous demands are met with a smiling regret. One must not get excited. The lady sat with her back to one of the few glass windows I have seen in Tibet. Opposite her were the Nyapala, who had treated us very fairly on the outward march but was now very much in the background, and the lady's secretary, a cheerful rogue. Shebbeare and I sat on rugs, with our backs against a wall. In the middle of the room was Karma Paul, alert and in his element. Tea and chang were passed round, and we drank each other's healths. We spoke of the absent Dzongpen, of the season, of Mount Everest, of cabbages and kings. By graceful transitions, the talk veered round to yaks and the difficulty of travel. The lady was desolate; she was alone and unversed in business. Her yaks were out at grass, and in poor condition. She had heard that on the far side of the Sebu La there was much aconite among the grass. Transport animals would eat it and die. Was it possible that we thought of going that way? It would be difficult, very difficult, perhaps even expensive. We extolled the merits of the route by comparison with the arid, windswept uplands on the way to Phari. Shebbeare, who had been there before, waxed lyrical about the meadows of Sikkim, its gentle climate and gentler people; about the flowers,
the perfect grazing, the complete absence of aconite. More
chang was pressed upon him, and a price suggested with an
air of benevolence. Three rupees per animal per stage.

Karma Paul's look of horror could not have been bettered.
His pleadings would have melted a stone. Here were we, rep-
resentatives of a friendly nation, under the protection of the
Dalai Lama himself, strangers, exhausted in body (and in
purse) by meritorious pilgrimage to holy places, anxious to
report favourably at headquarters upon our treatment in Tibet.
Surely he had heard incorrectly. An honourable Dzongpen's
wife could not contemplate charging us three times the normal
rate. He paused for a cup of chang. The lady smiled, and
intimated that his perfect knowledge of the Tibetan language
ruled out the possibility of misunderstanding.

We took up the tale. Argument with so charming a lady
was painful to our sensitive minds. Time was no object, Kampa
Dzong was a pleasant, sunny place in which to restore jaded
energies. The sick needed rest. Our many friends in Sikkim,
made anxious by our prolonged absence, would doubtless send
over their splendid and innumerable yaks to find us. We should
then be obliged reluctantly to tear ourselves away. Of course
we would rather bring big business to Tibet, at a rate of one
rupee eight annas. Even this was too much; more we could
not even contemplate.

Karma Paul, greatly daring, took the lady by the hand. His
face at this moment would have secured him an instant and
prolonged contract at Hollywood. It registered emotion, ad-
miration, suspense, and all kinds of devilment. Much affected,
Mrs. Dzongpen looked at us. I don't know what my face regis-
tered, but Shebbeare's was stolidly wooden. Suddenly, the end
came. With the pleasantest of smiles our hostess gave way.
Transport, as much as we wanted, should be provided next
morning at our rates. Would we have some more chang? We would.

By this time we were pretty well accustomed to delays at the commencement of a stage. But Kampa Dzong, on the morning of July 18th, surpassed itself. The yaks were there—we could see them on the open plain, and their drivers could not avail themselves of the usual device of hiding them round a corner. By slow degrees they were herded up and tied by the nose to the long ropes pegged along the ground. Our equipment was all ready, the tents packed, the boxes in their right numbers for loading up. It was important to get away before the porters finished the entire liquor supplies of Kampa. The Nyapala himself could not get a move on. He brought me a little rug from the lady. I presented him with yet another hat. No good. The drivers wrangled and loafed. Hours elapsed before persistent pressure had its effect.

We paid a last visit to Kellas's grave. The monks had chiselled out the letters traced on the new slab, and we hope that now the grave will be left in peace. Then we descended the hill-side on to the plain, just in time to find the yaks giving a spirited imitation of a Wild West show. Boxes lay everywhere, in all stages of disruption. One had contained eggs; they were no longer eggs. Another contained our bandalasta plates and cups; it rattled ominously. One or two porters watched, in stolid detachment. The yaks, having got clear of everything by a series of tremendous bucks, resumed their occupation of the past three months, a leisurely grazing. Their drivers, fetching a wide circle, approached "with cat-like tread." The situation was not without its humour, but the hour was late and we wanted to get on to Giru, eight miles away. In our inexperience we thought to round up the herd. Greene and Smijth-Windham "prick'd madly o'er the plain." Shebbeare,
on foot, made a creditable matador. But the yak laughs at rodeos or the tactics of the bull-ring. For all his apparent unwieldiness, he can turn on a sixpence. Completely foiled, we gave it up and left the fermenting drivers to their own devices. They turned up all right in the evening.

Giru, Shebbeare told us, was quite new since 1924, when he and Odell passed this way. It has no apparent raison d'être, and is much exposed to wind. As a view-point, however, it has merit. The great Sikkim peaks, Chomiomo, Kangchenjau, Pauhunri, tower up only a few miles away, and the vast cloud-formations of the monsoon, in alternate advance and retreat, were a marvellous sight. The Valkyrie would have felt quite at home.

On our last morning in Tibet we slowly breasted the six-mile slope up to the Sebu La, at a height of about 17,000 feet. One felt reluctant to be leaving the country which had afforded an unforgettable experience, a country, moreover, which we might never see again; for entry to Tibet is not easily arranged. Sikkim in all its beauty lay before us, yet our footsteps lagged. Forgotten, for the moment, even the long marches in the teeth of gales, the dust, the bitter struggle on Mount Everest, the failure of our hopes. We remembered only the feeling of a great endeavour, shared alike by Sherpa, Bhutia, and Englishman, the friendly people, the companionship of months, the ever-changing loveliness of ridge and plain, of rock and ice and snow. What had civilisation to offer instead? I saw more than one porter turn in his tracks, to take a last look across the roof of the world. He, like ourselves, would gladly return.

Clouds were massing in the south, and we had still ten miles to go. The great shoulders of Chomiomo and Kangchenjau closed in upon us, an apparently impassable barrier. A mile farther on, after a scarcely perceptible dip and rise, came the
This photograph taken from above Camp V shows some of the highest points in the world on which man has ever stood. The position of Camp VI is indicated, as well as the route followed by Wager who explored the possibilities of Mallory's ridge route.
This group of men established Camp VI. Kipa Lama, wearing a pugaree, is standing in the back row.

Veterans of the previous Mount Everest expeditions, these “tigers” performed prodigious feats of strength and courage.
Kongra La, the frontier between Tibet and Sikkim. We hurried down the slope on the farther side, to find the valley twisting its way between the mountains, to our last camp in the open. There was wind here too, but not the dry, searing wind of Tibet. The softness of the south was in it.

Tangu, which boasts the highest dak-bungalow in Sikkim, almost reconciles the most confirmed nomad. It is beautifully placed on an open hill-side, and the march to it is something to remember. We walked through meadows bright with cow-slips, primula and blue poppies, through birches, rhododendron, and even small pine trees. The river rushed southwards over a splendid waterfall. A turn in the path, and the snows vanished from sight. All was green, save for the bright flowers and the distant welcoming red roof of the bungalow.

The luxuries of civilisation were not long in making their appearance. A most welcome present awaited us at Tangu in the shape of a basket of fresh vegetables, very kindly sent up from Lachen by Miss Kronquist, the lady missionary. Karma Paul produced a wonderful arak, made from millet by the local people. Chang is milk and water compared with it. The Pipen or headman of Lachen, a robust and most courteous individual, came to call with the glad news that he had plenty of mule transport ready which could take us right through to Gangtok. We were the less reluctant to part with our Tibetan yak drivers because they had been caught on this day making a determined effort to steal a number of our boxes. Their simple method was to drive their animals off the path at a spot where they were concealed from view, hoping to get back over the pass before the loss was discovered. Happily Shebbeare and Smythe were in the rearguard and observed this little ruse. There was a brisk scene at Tangu, especially as Karma Paul and Lhakpa Chedi had lost their bedding. Each selected a likely
driver and set to work on him, while the Tibetan Gyembo, who had done his best for us, applauded loudly and promised the offenders a special beating on his own account when they returned to Kampa Dzong. Everything was recovered.

We were now nearing the region of larches, hemlock pines, Sikkim firs, and dog-roses, and the march to Lachen was a sheer delight. We crossed the fine new suspension bridge where the Zemu River makes its inconspicuous exit from the great valley of the Zemu glacier, by which the Bavarians returned from Kangchenjunga. Here were two porters who told us that Crawford and Brocklebank were just ahead. They had encountered a good deal of bad weather in their crossing of the ranges. At Lachen we delved in our suitcases for those almost forgotten things, collars and ties, for Miss Kronquist had asked us to tea. She has laboured for many years in this remote valley, helping the poor and encouraging cottage industries. Rugs and a very strong kind of tweed are the principal manufactures.

In these last marches there were certain disadvantages to counterbalance the beauties of Nature. Below Lachen the temperature was becoming steadily higher, the track was a jumble of slippery, water-worn boulders, landslips here and there made things difficult for the mules and, worst of all, the leeches were not to be robbed of their prey. The Sikkim leech is voracious and persistent. Among the forests, wet from a tropical rainfall and seamed with countless watercourses, he awaits you on every leaf and every stone. He is very insinuating in his ways. He will enter through the lace-hole of a boot, or crawl up your sleeve. He is so small that his manoeuvres are not easily seen; moreover his bite is not felt. You do not realise that you have given him free board and lodging until someone calls your attention to a broad smear of blood on wrist or bare knee. The leech has quickly gorged himself and dropped off,
contented. Bare-footed men and animals suffer most; and there is one kind of leech that gets up the noses of cattle, sheep, horses and dogs, residing there for long periods and growing to a length of four inches or more. Salt is one of the few things he dislikes. We got into the habit of watching our boots during a march and flicking off the intruders before they had got a proper hold.

The boulders in the lower valley were a sore trial to the ponies on the steep descents. Some began to go lame. Wood-Johnson, who had put up a gallant show, found himself unable to ride on these gradients. Miss Kronquist came to the rescue with a wicker armchair to which carrying poles were tied. Four men could then carry it; but the Sherpa porter is not used to this kind of work, and on the stage of only eleven miles from Lachen, in spite of relays of carriers, Greene and I spent eight and a half hours getting the men along. After that we secured local talent for the work, and Wood-Johnson was brought in at a great rate.

A special effort had to be made to reach Gangtok, by means of a double march of twenty-four miles, to avoid spending a night in that very malarious place Dikchu. I remember the march for two reasons. Firstly, Shebbeare, Brocklebank and I, while walking along the path above the river, came upon a little patch of wet sand on which fifteen butterflies rested, apparently engaged in full conclave. They had the most lovely blue and purple wings, which they held stiffly upwards and then, as it seemed at a given signal, vibrated rapidly. The séance closed before we were able to form any opinion as to its cause. Secondly, the hill up from Dikchu is the longest and most continuously steep, rough, and leech-infested that I have ever encountered. But the last three miles into Gangtok, in spite
THE RETURN

of the rain, were enjoyable. We had risen above the steamy valley again, and the road was in very fair condition.

At Gangtok the Maharaja of Sikkim, the friend of many expeditions, showed us the kindest hospitality, and we had the privilege of meeting the Maharani at dinner. Williamson, unfortunately for us, was away en route for Lhasa. We spent a busy two days arranging for fresh transport, and making up the accounts of our postal agent, Lobsang Tsering, who had been most business-like and efficient.

Marching was now a thing of the past, for there is a motor road southwards from Gangtok, and cars can be procured from Kalimpong. The Maharaja, in addition, most kindly put his own at our disposal. We went our several ways. Longland had already left for Indore. Crawford had to pay a call at Shillong. Wyn Harris, Smythe and I, after lunch with our good friends Mr. and Mrs. Odling at Kalimpong, went straight through to Darjeeling in those wonderful, specially-gearèd Baby Austin cars which make light of the tremendous gradients of the Tista valley, and have revolutionised life for the tea-planters.

We arrived after dark, to find that a crowd of several hundred people had waited for hours to welcome us back. Alas, we were a bitter disappointment to one of them, an old "Everester." He peered through the darkness at the occupants of the first car, and then sped up the bazaar shouting in Nepali, with the very ring of tears in his voice, "They've no beards!"

No time could be lost, for the porter corps had to be paid off, character certificates written, accounts settled with Mr. Kydd, and a thousand and one matters arranged. Fortunately Wyn Harris had kept the expedition accounts with such devoted care and accuracy that the settlement was comparatively easy. Moreover Indian rupees are now accepted everywhere along our line of march, so there was no need for complicated
conversions to and from the Tibetan tanka. Only one mistake was made: during a crowded session, one porter managed to get away with a double payment, and no amount of detective work by Karma Paul succeeded in tracing him.

The Sherpa and Bhutia sardars, who had done very well in Tibet and in the Lachen valley, rather failed us on the last two stages from Gangtok. The return to civilisation was too much for them, and the flowing bowl too attractive. But the Gurkha N.C.O.s did their duty. I shall always remember Havildar Lachman Singh’s arrival at Darjeeling, nearly dead-beat but justly proud that he had got the last load safely in.

Darjeeling was kindness itself. The difficulty was to get any work done amid so much hospitality. The chief event was a dinner given at the Planters’ Club, at which every single member of the expedition present went through the ordeal of having to speak. In spite of this, it was a merry evening, ending with a dance at the Gymkhana Club which proved that our sense of balance was still unimpaired.

At last, on August 1st, came the farewells to our generous hosts, and to our close friends for five months, Karma Paul, the Gurkha N.C.O.s and the porters. It was very hard to say good-bye or to thank them adequately. But the link forged by those months of shared privation and endeavour will not be broken. If the call comes again, most of them will appear on the “quarter-deck” of the Planters’ Club, ready as ever for adventure. They want to see Mount Everest climbed as much as we do.
It is not easy to be wise even after the event of an Everest expedition, for any attempt to lay down a rule, or set of rules, to govern future effort is sure to be shipwrecked on the quicksands of phenomena over which there can be no human control. The circumstances of one year are not exactly repeated in another; and so intricate and indeterminate are the forces brought into play against the advance that dogmatism is a waste of time. Nevertheless, each expedition undergoes experiences which go some way towards the placing of facts and theories in their proper relationship. We cannot afford to emulate the French philosopher who, when informed that the facts did not accord with his theories, replied “tant pis pour les faits.” As a gesture, that is delightful; as a basis of action, disastrous. I propose in this chapter to attempt an analysis, critical, explanatory and comparative, of the past; and to offer a few suggestions for the future, in the hope that they may be of service.

I. Weather

As this must necessarily be a prime factor in the fortunes of any expedition to Mount Everest, it is dealt with first. If the weather of 1924 was abnormal, that of 1933 may be said to have been even more so.
ATTACK ON EVEREST

It will be recalled that Dr. Sen, the Meteorologist at Alipore, warned me in February that we must expect a series of western disturbances and an early monsoon. During the greater part of the march across Tibet nothing exceptional was observed. The west wind blew with considerable force at times; that was seasonal, and caused no anxiety. But from Shekar Dzong, on April 10th, we observed heavy clouds over the Everest region; no view was obtained from the Pang La on the 13th; and on the 16th, the date of our arrival at Rongbuk, a westerly storm was evidently at work on the mountain.

From now on till the establishment of Camp III, on May 2nd, the weather was fairly good for the work in hand; snowsqualls of short duration were not infrequent in the evenings, but a strong west wind on the upper part of the mountain kept the north face clear from snow and the long cloud-banner flying from the summit.

Then disturbance after disturbance came over from the west, delaying the establishment of Camp IV until May 15th. I was duly warned from Alipore of their approach. They were accompanied by very high winds and low temperatures. Work on the North Col slopes was only possible on six days of this period, and on two of those days very little could be done, owing to wind and to the dangerous condition of the snow which had blown over from the other side of the Col. To make things worse, Dr. Sen reported monsoon conditions off the east coast of Ceylon as early as May 12th.

No sooner was Camp IV established, on May 15th, than another storm completely cut it off from below till the evening of May 19th. Simultaneously a depression was advancing from the Arabian Sea and the monsoon was active in the Bay of Bengal. Balloon observations in Bengal indicated a wind speed
from the west of sixty-five miles an hour at 29,000 feet on May 19th, and of eighty-three miles an hour on the 21st.

On the afternoon of the 20th there were clear signs of the advance of the monsoon air-currents from the south-east. They were beaten back again and again by the westerly winds, but from now on they were always to be reckoned with in judging the state of the snow on the North Col. Their arrival, however, and their battle with the west wind, may explain the three comparatively good days, May 20th-22nd, of which advantage was taken to establish Camp V. These were immediately followed by a very heavy gale from the west, which lasted till the 25th and coincided with the formation of a cyclonic storm in the Bay of Bengal. Camp V had to be evacuated, and the snowfall on the North Col subjected Camp IV to danger of avalanche.

Camp V could not be reoccupied till the 28th, by which time the monsoon was in full strength from the Bombay coast to Burma. The wind was now very uncertain in the Everest region. It was frequently gentle in the mornings, but a marked feature of the period from May 29th to June 1st, during which Camp VI was established and the two assaults on the summit were made, was the recurrence in the afternoons of sudden westerly storms of great violence which were naturally a source of considerable danger to the parties on the mountain. They seemed, on occasion, to occupy a horizontal stratum of no great vertical thickness. Thus the storm which caught Longland and the porters while descending from Camp VI on May 29th was not severely felt at Camp VI itself. Their approach was invariably sudden and most disconcerting. They occurred on every day of the period except May 30th, and brought snow as well as wind.

Perhaps the most remarkable phenomenon of all was the simultaneous activity in the Everest region of westerly storms
ATTACK ON EVEREST

and monsoon. This really made things impossible for us. We never enjoyed the truce between the elements which the experience of other expeditions had led us to expect before the monsoon developed in full.

A number of photographs taken by Beetham from the Base Camp in 1924 afford evidence that the north face was often more free from snow in that year than it ever was in 1933. The snowfall of May 29th and May 31st set the final seal on our hopes, for it rendered the slabs near the summit unclimbable. From now on the north face of Mount Everest became whiter and whiter, in spite of the fact that violent north-west winds were forecasted, and experienced, as late as June 6th. Then, as the monsoon gathered strength, the higher reaches of the mountain became unapproachable. Crawford and Brocklebank found dangerous snow conditions on the slopes of the North Col on June 14th. Wager, who made another inspection some twelve days later, came to the conclusion that the slopes might then be ascended in moderate safety before eight o'clock in the morning. Anyhow, the state of the upper slabs of the north face after June 3rd would have made an ascent to the North Col unprofitable.

There was to be no respite, not even the few days of clear weather which commonly occur during the early part of the rainy season. The effort to renew the attack, begun on June 11th, was really of the nature of a forlorn hope. The mountain was "closed for the season."

To sum up: constructive work was only possible on thirteen days during May, and sometimes only for a few hours on those days. Both attacks on the summit, especially that of June 1st, were made in conditions which were unfavourable to success. After that, snow never left the mountain.

Compare this state of things with that which prevailed in
1924: then storms exhausted the party in its attempts to establish Camp IV; but a fine spell began on May 26th and lasted nearly three weeks. Not perfect, of course—three consecutive perfectly good days are rarely come by on Mount Everest—but favourable for work. The monsoon set in about the middle of June.

In 1922 conditions were better during the early stages, though the monsoon arrived about June 3rd. In 1921 it was actually delayed till July 7th. In neither of these years were western disturbances so persistent as in 1924 and 1933.

It is unfortunate that the science of meteorology has not yet reached a stage which enables seasonal forecasts to be made well in advance. Dr. Sen, who has devoted his life to the study of this subject, and whose forecast for 1933 was remarkably accurate, informed me that he could not, in any given year, venture a prophecy earlier than February of the conditions likely to develop in May and June. A message which he sent me on June 18th was of particular interest in regard to the possibility of work once the rainy season had started. He said that breaks in the monsoon ordinarily mean periods of little rain over the heart of India. During such breaks pressure distribution over Northern India is often most favourable for heavy precipitation over the Eastern Himalaya. Such breaks should occur so long as a well-defined monsoon depression is situated over the head of the Bay of Bengal. It is impossible to forecast far ahead the likelihood of fine spells in the Everest region during July and August. All that can be done is to indicate from day to day the progress of the monsoon, with the outlook for two or three days. The monsoon period in the Eastern Himalaya extends usually from mid-June to mid-October. As statistics of breaks in the monsoon over the Everest region are not available, it can only be said that the chances
of prolonged spells of fine weather there are greater in September and October than in July and August; and no correlation has been established between the onset and the cessation of the monsoon.

We have strong reason to believe that the north face of Mount Everest remains snow-clad from the onset of the monsoon till late in the autumn. The west wind probably resumes its activity then, and possibly blows the snow off the north face. By that time, however, the days are getting short and the cold is excessive. On September 26th, 1921, Mallory and his companions were unable to face the wind for more than a minute or two on the North Col.

I think that the following conclusions are justifiable:

1. The proper season for the attempt is during May and the early part of June.

2. A normal monsoon may be expected to reach the Eastern Himalaya during the first half of June.

3. An abnormally early monsoon, such as we experienced in 1933, will be almost certainly fatal to success, especially if western disturbances are active.

2. Operations

This subject is, of course, closely linked with the climatic and physiological conditions. The question is sometimes asked, "Should you not have started earlier?" The same question was put to General Bruce in 1922. My answer is that we started as soon as we could. From the time that the news of the Tibetan Government's permission came through till the day when the main body sailed was only four and a half months, a small enough allowance for the organisation of a big enterprise. We had to work at very high pressure throughout.

Again, it is by no means easy to procure animals for the trans-
port of some thirty tons of equipment and stores across the Tibetan plateau in the early spring. The Tibetan Government Trader himself told me that it was only by a lucky chance that his mules were available in sufficient quantity in March. Moreover the yaks and donkeys which have to be requisitioned for the greater number of the stages are in poor condition early in the year, especially if the winter has been hard.

Thirdly, the passes over into Tibet are often blocked by snow in the early spring, and on the plateau itself the climate is of such severity at that season as may put an unreasonable strain on the personnel of an expedition. As it was, we started nearly a fortnight earlier than our predecessors; were prevented by snow from crossing the Sebu La; and were threatened with a heavy fall on the Natu La. The first few days after leaving the Chumbi valley provided a sufficient test, both of men and of animals.

Once on the plateau, we advanced steadily, covering between twelve and eighteen miles a day except for halts at district headquarters, where transport had to be changed and delay was inevitable. I would add that these halts were beneficial to the party and should be made in any case. The experience of seven seasons in the Himalaya has convinced me that men must be given time in which to adjust themselves to the changed conditions of life. Even at Darjeeling, Europeans coming up for the first time are liable to stomachic and other disorders, due perhaps partly to the water of the hills, but also to altitude, variations of temperature, different food, and so on. How much greater, then, must be the strain upon the newcomer to Tibet. If it were at all practicable, I would strongly recommend that the next party selected to attempt Mount Everest should first spend a winter at Gyantse.

If we are forced by circumstances of time and finance to
cover the 350 miles from Darjeeling to Mount Everest in about five weeks, it is impossible to guarantee arrival at the Base Camp with the party anything like equally acclimatised, and this applies to the porters almost as much as to the climbers. In organising the establishment of the camps up the East Rongbuk glacier the fact was not lost sight of. I held—and still hold—the view that it paid us to advance methodically, however tempting the weather. Norton himself has said, "For some, three weeks' acclimatisation at each advance in altitude would be desirable—were it possible." He is absolutely right. Unfortunately it is not possible, and we have to make the best compromise we can.

Had the weather remained uniformly good, we should have been in Camp III by April 29th, twelve days after our arrival at the Base Camp. Actually we established it on May 2nd. In 1924 the operation took only six days. But there is this further difference: we were never driven out, though the ensuing weather in both years was about equally severe; and by May 7th we had no less than eleven members of the expedition in full residence, most of them very fit and ready to take a share in making the North Col. And porters were working steadily up and down the glacier between Camps II and III. Our improved tents certainly contributed, but I firmly believe that the slow advance was the chief factor.

Now take the next stage, the making of the North Col or, more exactly, Camp IV. During this operation the weather was about as bad as it could be, but everything possible was done to spread the work over a reasonable period, to take it in shifts, and to eliminate fatigue; for instance, by pitching a temporary Camp IIIa near the foot of the slopes. In good conditions, Camp IV would probably have been in occupation by May 7th. In very bad conditions it was ready by May 15th,
when five members slept there. So we were a week behind on our time-table, but still ahead of the 1924 party, who did not reach the North Col until May 20th, or seriously occupy it till May 31st. Apart from the gales which raged over the mountain at this time, the very low temperatures indicated that conditions higher up would have been too severe for an assault.

The next period was for us the critical, and the decisive, part of the campaign. It had never been contemplated that the advance above 23,000 feet should be at the same phlegmatic speed as heretofore, and by May 15th we had few illusions about the danger of deterioration, though we knew that Odell, a slow acclimatiser, had been all the better for ten days spent on the North Col. I well remember how Shipton pressed for a maximum of five days before launching the assault; and on the fifth day an attempt was made to establish Camp V, though the four days' gale which began on the night of May 15th had made it impossible to get sufficient porters up from below to stock the camp fully, even had the attempt succeeded. One of the two alternative plans for this part of the work allowed for a “dump carry” on the fifth day, if it should be found that more acclimatisation was needed; this meant that loads would be carried half or three-quarters of the way to the proposed site and dumped there, the party returning at once to Camp IV. The plan was abandoned when it was realised that at least four members—probably five—were ready to advance. Smythe and Shipton, on the 19th and 21st, made tentative reconnaissances up the north arête, finding themselves able to climb fast, but prevented from going far by the wind.

There are so many “ifs” which appear in the retrospect. If Camp V could have been properly established on the fifth day (May 20th), and if the party, with porters, could have made Camp VI on May 21st, and gone for the summit on the
One of the light steel carrying frames used by the porters is seen here at Camp VI. The transportation of supplies presented one of the greatest difficulties the expedition encountered.

The panorama that reveals itself to the climber who is nearing the summit of Everest is one of incomparable magnificence. This view was taken from the great couloir.
Wyn Harris and Wager, heroes of the first assault on the summit, are seen here leaving Camp VI. The struggle took every atom of strength they possessed and both men suffered from dilated hearts.

To allow for adequate acclimatization of both porters and climbers at least four days were spent at each camp. This line of porters is moving along a ledge leading to one of the lower camps.
22nd, success might have been theirs; for these three days were as good as any we had throughout the operations and the mountain was in excellent condition.

But (there are just as many "buts") our strongest attacking force was not yet complete. The great gale of May 16th-19th prevented Wager, Green and Longland and several porters from reaching Camp IV till the 20th. The planned assault could not take place at the most favourable moment. We must not forget, too, that any party which had attempted the summit on May 22nd might have been destroyed by the terrific weather which blew up on that same night, unless it had had the strength to come down to Camp IV.

The upshot was that Camp V was made on the 22nd; that it had to be evacuated after three terrible nights which told heavily upon its occupants; that, as a consequence, it could not be regained till the 28th. This was the second blow to our hopes. Could the strong party of the 22nd have continued up the mountain on the 23rd and 24th, with Smythe and Shipton one day behind them, the summit might have been reached.

This second blow was far more serious than the first. The frightful exposure suffered by the leading parties, no less than the time spent above the North Col and the repeated ascents and descents of the ridge, was beginning to tell; and when Camp V was gained for the second time, on May 28th, several of the climbers had not been at a lower altitude than Camp IV for thirteen days. There had been no opportunity for them to descend for a rest, and the North Col slopes were in a dangerous state.

The attacks which began on the 28th and were continued till June 1st constitute the last phase of the expedition's work on the mountain. They were pushed to the very limit, and they failed mainly because of the snowfalls on the 29th and
31st. All was over on June 1st, the date on which the first climbing party of 1924 began its ascent of the north ridge. We never had another chance.

I think that, given a season which, for lack of a better name, may be called normal (remembering that normality in the Everest region cannot yet be fully defined), the expedition of 1933 might have reached the summit. A spell of reasonably good weather, lasting ten days from May 15th, should have been amply sufficient; and such a spell may, I suggest, be expected at about this time in any but a wholly abnormal year.

The conclusion, therefore, appears to be this: bring your parties, climbers and porters, slowly up to Camp IV, conserving energy the while; aim at reaching that point with your best acclimatised men somewhere about the middle of May; allow a short period for acclimatisation there; and then go for the high camps and the summit as rapidly as possible, keeping the slower acclimatisers in reserve at Camp III. The rest is on the knees of the gods.

3. Leader and Chief Transport Officer

Something should be said here about the work of the leader and of the chief transport officer. It is not, I think, essential that the leader should take part in the higher climbs; it may even be better that he should not, for events are sure to occur which he can deal with only from some central position. Opinions differ as to where that position should be. Experience on the spot has convinced me that it should be on the North Col. There only can operations be controlled. The leader should reach the North Col as soon as he possibly can, and should endeavour to stay there during the work on the mountain. If he cannot do this, he is not fit to be leader. He must, of course, be an experienced mountaineer, capable of judging the condi-
tions of weather and snow and the abilities of his men. I strongly deprecate the principle of appointing a second-in-command to control the climbing operations. The responsibility is very great, and should not be placed on the shoulders of any other member of the party. The leader must bear it himself. He should, however, before leaving Darjeeling, select someone to take over the command in the event of his own breakdown. That is quite a different thing.

The chief transport officer should, I consider, be a specialist. His concern should be with transport and victualling, and with these only. Climbing and other pleasures are not for him: his duties will occupy the whole of his time if efficiency is to result. During the establishment of the glacier camps his headquarters should be at the Base Camp; after that they should be at Camp II, though occasional short visits to Camp III may be necessary. He should be in telephonic communication with all camps as far as the North Col. I know well that his task is exacting in the extreme and by no means spectacular; but it is hardly an exaggeration to say that he can make or mar an expedition.

4. The Physiological Aspect

It is a truism to say that men react differently to altitude. No expedition has yet had the time to make anything but empirical attempts to neutralise these differences of reaction. I have already mentioned my belief that if you could winter an Everest party on the Tibetan plateau at a height, say, of 14,000 feet, they would start for the mountain with a far better chance of success. They would, of course, have to be properly housed, clothed and fed, and be given plenty of occupation for both body and mind. Those with previous acclimatisation would not, I believe, deteriorate at all. Those without it would obviously benefit. I have discussed this question
with officers who are quartered at Gyantse on the road to Lhasa. They were unanimous that their general health and working power were enormously improved by a six-months' residence there. Among other things they had got rid of the trouble of sore throats which causes so much loss of condition among both climbers and porters during an expedition. If further proof is needed, you have the definite fact that local Tibetans exhibit greater energy on the Rongbuk glacier than the still comparatively unacclimatised Sherpa porters.

In 1933 we did all that was possible to level up the party. The advance guard on the march was made up chiefly from those who had never been high before, or not recently. Riding was encouraged, and serious climbing discouraged. Even so, we reached the Base Camp with fairly marked differences of condition still in evidence; and the illnesses which occurred there still further complicated the problem. Nevertheless, that the general level was pretty high is shown by the number of men who were fit for hard work on the North Col by May 7th, and by the comparative absence of lassitude, distress, sleeplessness and loss of appetite at any except the highest camps. I attribute this almost entirely to the slow advance.

Again, anyone who has read The Assault and The Fight for Everest is familiar with the descriptions of distress, amounting to exhaustion, felt by the climbers of 1922 and 1924 when they first tackled the slopes of the North Col. Almost nothing of the sort was experienced in 1933, and thirteen climbers and a wireless officer reached Camp IV. Breathlessness there was, but not exhaustion. The inferences are that if you will only take your time up the East Rongbuk glacier and not try to rush it, you can arrive on the North Col with plenty of reserve in hand, and not get ahead of your acclimatisation, at least up to 23,000 feet.
After that, the case is probably different but, even so, events proved how great was the reserve strength of the party. Smythe, Shipton, Wyn Harris and Birnie were continuously at Camp IV and above from May 15th to June 2nd. The first two ascended twice to 24,500, twice to 25,700 feet, and once to 28,000 and over. Neither had the slightest vestige of heart trouble as a result of this terrific strain. Shipton's collapse at about 28,000 feet had nothing to do with physiological phenomena. Wyn Harris, who made exactly the same number of ascents, did get his heart dilated, but he had been down with influenza at the Base Camp on April 18th; and Wager, who did nearly as much, with similar results, had been ill too.

On the other hand, there is no doubt that the long residence at Camp IV and above allowed deterioration to set in. It was not part of our plan, but was forced upon us by circumstances. Every man who made more than one ascent of the north arête found that he went better the first time than the second. This is clear evidence that the limit of beneficial acclimatisation had been passed. Oxygen-lack, cold, wind, fatigue, discomfort, loss of appetite and of sleep must eventually cause deterioration. The first five were unavoidable anywhere above Camp II, the last two were not often felt below Camp V.

The comparative study of speeds is germane to the subject, though it must never be forgotten that figures of this kind can be most misleading. They depend on condition of the day, both of climbers and of weather, on the numbers and composition of the party, on the speed of its slowest member, and on the nature of the ground and direction of ascent.

In 1922, the first party ascended at the rate of 400 feet an hour to Camp V, at 330 feet an hour above that. The second party, using oxygen, climbed at 1,000 feet and 900 feet respectively.
In 1924, the best speeds recorded by parties of two or more, without oxygen, was 433 feet an hour up to Camp V, 333 up to Camp VI, and 205 above that.

In 1933, Smythe and Shipton in the course of their two early ascents to 24,500 feet, without porters, found they could ascend comfortably at nearly 1,000 feet an hour even in a heavy wind. Going up to Camp V on the 23rd in bad weather, and again on the 29th, they deliberately slowed the pace down to 500 feet an hour in order to save themselves for the next day, but they felt that they were not going so well.

The parties which established Camps V and VI climbed at 500 and 400 feet an hour respectively. They included laden porters, and the positions of these two camps were, respectively, about 500 and 600 feet higher than those of 1924. Moreover the climb to Camp VI was over unexplored and sometimes very steep ground.

In considering the speed of ascents made above the Camp VI of 1924 and that of 1933, it must be remembered that these were not made vertically upwards; they involved a great deal of almost horizontal traverse and much difficult going where the greatest care was necessary.

Wyn Harris and Wager took six hours and fifty minutes to achieve a vertical rise of only 700 feet or so. Smythe took about three and a half hours to do the same. The speeds, therefore, work out at very little more than 100 feet an hour in the first case and 200 in the second. At first sight this compares very unfavourably with Norton’s ascent of no less than 1,300 feet in six and a half hours. The figures for the first party are really valueless, for the men spent much time in trying to find a way up or round the second step. Whether they had to contend with more snow on the slabs than Norton found on his day is not
very clear, but the storm of May 29th had certainly made the going difficult. Smythe probably had worse conditions, due to heavy snowfall on the 31st.

On the whole, the evidence shows that our assault parties retained their form well. Shipton spent two nights at 27,400 feet, and Smythe three, with no untoward results. No one suffered really severely except Birnie, who was not in the best of health and spent a total of eight nights at Camp V, insistent on staying there.

We can offer no exact parallel to Odell's example of very slow acclimatisation followed by amazing performance. Our slowest acclimatisers did undoubtedly much improve with time, but opportunity never occurred to test them fully.

Two more points may be noted: firstly, it is very doubtful if any of the men who went really high could have repeated their performance, though this may be ascribed, at least in part, to the long period they were forced to spend on and above the North Col. Even Smythe and Shipton were subject to the general loss of condition and weight. Secondly, the rapid recovery of most members of the expedition during the return march was very noticeable.

I trust that the foregoing paragraphs will not convey the impression that we claim any epoch-making discovery for the 1933 expedition, or that comparisons have been made at the expense of our predecessors. Nothing could be farther from the truth. The more our record is examined, the more it will be seen how we fell into line with Norton's own recommendations. The need for gradual acclimatisation, for speed above the North Col, for not more than two high camps, the position and height of these camps—all these and many other things we owe, in large measure, to him.
5. Oxygen

Readers may well have been forcibly impressed by the speeds attributed to the oxygen party of 1922. The fact that they could climb at 1,000 feet an hour to Camp V, and at 900 feet an hour above that, would appear to afford a very strong argument in favour of the use of oxygen. Unfortunately the experiences of one party do not provide an adequate basis on which to build a general theory of action:

The following points may be noted:

1. Finch appears to have used oxygen continuously from Camp III upwards.

2. An accident to the oxygen apparatus carried by Geoffrey Bruce occurred at about 27,300 feet and nearly produced a disaster.

3. Odell used oxygen in the course of his ascent in support of Mallory and Irvine in 1924. Its effect on him was so very slight as to make it doubtful whether it was worth while carrying the apparatus.

4. Greene, in the course of his climb to Camp V after only one day's acclimatisation at Camp IV, made a trial of one of Finch's cylinders on the north ridge, and obtained considerable relief from it.

5. Smythe, on the other hand, having descended from his high climb, used an apparatus experimentally at the North Col, only to find that it gave him a sore throat. It did not appear to improve his condition in any way.

We may perhaps justifiably conclude that a climber will receive little or no benefit from the use of oxygen at an altitude to which he has acclimatised himself in the natural way.

On the other hand, if the tactics proposed in foregoing paragraphs are adopted, the climbers will always be, to some
extent, ahead of their acclimatisation when at work above the North Col, though we know that a camp can be established and occupied for a considerable time above 27,000 feet without danger of collapse. Apart from the difficulty of transporting oxygen in any quantity to high camps, I think it is advisable for the assault parties to attain such acclimatisation as is possible at least as far as 27,000 feet. But we should do well to consider the advantages of the use of oxygen above that, especially if an even more efficient apparatus can be devised. The dangers from deterioration and from bad weather are so great that speed is essential. Wyn Harris's suggestion that an apparatus might be used to help men over the difficult part in the neighbourhood of the great couloir is worth examination. I would go farther. A party might begin using it when leaving Camp VI and might have a better chance of reaching the summit. They would probably suffer less from cold, and would be able to make more rapid progress. Having reached Camp VI without this aid, they should incur little risk of collapse if the apparatus failed.

I know that there are many who would still prefer to attempt to climb the mountain without oxygen; but the odds against success in any conditions are so heavy that I am inclined to recommend the use of every available means.

6. The Climbing Problem

The experiences of 1933 confirmed an opinion which first took shape in 1924, that Mount Everest is, in a technical mountaineering sense, a difficult mountain. Norton, whose favourite climbing ground in Switzerland is not dissimilar in formation to the upper slopes of Mount Everest, with the added disadvantage of loose rock, was the very last man to exaggerate the obstacles. He considered that the climbing for perhaps 400 feet
on either side of the couloir, and in the couloir itself, was
difficult and, in a greater degree, dangerous; and that both
difficulty and danger were greatly increased by the presence of
powder snow on the slabs. The point is that, although the work
is not of the kind found on “severe” routes in the British moun-
tain districts or the Chamonix Aiguilles, it nevertheless requires
delicate and accurate balance. Overhangs, or places requiring
strong arm-pulls, would not be negotiable at all at such an
altitude; but smooth, small outward-sloping ledges, which
have to be traversed by climbers whose co-ordination of mind
and muscle has necessarily been impaired by altitude, consti-
tute a difficulty of a high order when masked by snow.

The reconnaissance made by Wyn Harris and Wager af-
forded evidence, which to my mind is conclusive, regarding
the comparative merits of the routes favoured by Mallory and
Norton respectively. The conditions on May 30th were suffi-
ciently good to permit accurate judgment of the practicability
of the second step. One cannot go so far as to say that a rock-
climbing expert might not climb, or turn, this step in good
conditions at Alpine levels; but I am satisfied that if Wyn Har-
riss and Wager, both of them first-rate mountaineers, turned
away from it, future parties will be well advised to leave
it out of their calculations. If, after arrival at Camp VI, they
should find the slabs rendered temporarily impassable by a
sudden fall of snow, they might make a further examination
of the second step. But this should not, I think, be included in
the plan of assault.

I would strongly recommend single-minded adherence to
Norton’s route, which offers a practical certainty of success in
good conditions. Provided that you can synchronise the arrival
of two parties at the top of their form with the absence of
snow and three, or preferably four, days of consecutive fine
weather, I believe that the summit will be reached by Norton's route.

Before leaving this subject I should say something about a theory which Smythe has developed. This is, that the north face can be traversed at a level of about 25,500 feet, the couloir crossed at this height, and a lodgment effected upon the western part of the north face directly below the final pyramid. The face will then have to be climbed more or less directly, up what is undoubtedly steep ground; but there will be this advantage, that the possibly more dangerous traverse of the upper slabs and the upper couloir will be avoided, and direct access afforded to the western subsidiary couloir leading to the easier slopes of the final pyramid. The difficulty is that, while we know the advantages of Norton's route and the possibility of placing a high camp either where it was placed in 1933, or, better still perhaps, on a snow-slope just below the first step, we cannot know without previous reconnaissance that Smythe's proposed route will "go," or that suitable sites will be found for at least two camps which would be needed on the face; and a great deal of time would be expended in this reconnaissance. For my own part, I would prefer to follow Norton and go for what we know to be possible.

7. Climber Personnel

There is no test known to men of science, to philosophers, or to mountaineers (who should be either or both) which will ensure the formation of the perfect party to attempt Mount Everest. Our medical examiners conscientiously probed our qualities, physical and psychological, but the expedition was the real test, and Everest the final judge. Perhaps it will always be so. How can a man's reactions to prolonged strain at great altitudes be foreseen? Defects and weaknesses, imperceptible
or perhaps barely existing at sea-level, may assume strange proportions above the Himalayan snow-line. Chance must, therefore, inevitably play its part in the formation of a party.

It is well to consider men who have been high before, and men who appear to be temperamentally stable as well as physically active. They should be for choice between the ages of 25 and 35. They must be as much at home on snow and ice as on rocks, and have had long experience of guideless climbing, for there are no guides on Everest.

The selection must, I firmly believe, be made by the leader. If he is wise, he will seek advice and consider opinions among the party as it takes shape, for homogeneity is of great importance. But he must use his own judgment and shoulder his own responsibility.

8. Porters

No praise can be too high for the services rendered by the porter corps of 1933. There can no longer be any doubt whatever that, physically and morally, they are capable of bringing the summit within reach of the climbing parties. The final climb can probably be done from the height and position of the Camp VI of 1933, but a still better chance would be afforded if this camp could be placed just below the first step at a height of about 27,800 feet. The form shown by the porters allows of the belief that they are capable of carrying as far as this, even from the site of our Camp V. The position of the latter cannot, we think, be improved upon; but the camp itself might well be more solidly constructed.

In calling upon the porters to carry to 27,400, or perhaps to 27,800 feet, we must see to it that they are under escort both up and down; for the dangers of climbing above Camp V demand it. This requires an act of self-sacrifice on the part of
at least one among the climbers. I am confident that a volunteer will never be called for in vain. It is essential that every climber should be capable of independent action on the mountain; morale is a plant of tender growth, and the porters must have confidence in the ability of the man to whose care they are entrusted.

Norton has always, and rightly, laid stress upon the importance of getting to know the porters individually and of learning their language. The party of 1933 did its utmost in this respect, though linguistic ability was not universal. It was found that, if only the porters liked and trusted a climber, they would follow him anywhere even though his powers of communication were limited. Personal influence is by no means in direct proportion to capacity for speech. The latter, however, is obviously a valuable asset, and will always increase the standard of performance and improve the safety factor at a crisis.

In the matter of climbing Mount Everest the Sherpa and Bhutia communities have now developed an esprit de corps which ensures that any future expedition will have no difficulty in obtaining a fine body of men.

9. Wireless Communications

I have already stated in Chapter II that Mr. D. S. Richards financed, equipped and controlled, independently of the expedition, the wireless system which kept us in close touch with the outside world. Our thanks are due to him, to the military authorities in India, to the Director of Wireless and to the Director-General of Posts and Telegraphs for the organisation which made this possible for the first time in the history of Himalayan expeditions; also to Messrs. McMichael, who presented us with a receiving set which was in constant and effec-
It is regretted that a detailed technical description of the system cannot be included in this book.

Put very briefly, the arrangements were as follows: a wireless transmitting and receiving station was set up at Darjeeling, equipped with apparatus made by Standard Telephone and Cables, Limited. In addition, a Post Office line was specially erected to put this station in communication with the Darjeeling exchange. This line could be plugged through direct to Calcutta.

The Darjeeling wireless station exchanged messages, over a distance of about 110 miles, with a station erected at the Base Camp and equipped with apparatus by the same company. The transmitter at the Base Camp was operated on a wave-length of 41 metres; power being supplied by two parallel banks of accumulators, each consisting of three Young 4-volt 80 A.H. batteries charged by a 1 H.P. Stuart-Turner charging unit.

The Base Camp station also exchanged messages with a station at Camp III, where the transmitter was worked from Siemens "Full-O'-Power" 50-volt batteries of a special (inert) type designed to maintain its performance in great cold. The wave-length employed here was of about 51 metres. The McMichael receiver has already been mentioned. It was a 4-valve battery-driven super-heterodyne Colonial model.

The chief advantage to us of this elaborate organisation was the receipt of timely information about the progress of the monsoon and general weather forecasts. So efficient were the arrangements that on several occasions I received weather reports at Camp IV within an hour or two of their despatch from Alipore.

Secondly, despatches to the Press and private communications could be sent quickly: 450 such messages were dealt with in three months, including one of 695 words in cipher. On one
occasion I sent a report to the Mount Everest Committee in London, and received the reply within twenty-four hours. On another, Smythe received a telegram from New York while he was at Camp IV, and was able to return the compliment on descending to Camp III.

Thirdly, Empire Broadcast programmes were frequently received at the Base Camp. They could easily have been relayed to Camp III, but the late hour of their reception, and the cold, would have prevented anyone from turning out of his flea-bag to listen to them. Gramophone relays from the Base Camp were, however, well received at Camp III, and were even, on one occasion, retransmitted by means of the telephone to the North Col.

Transport difficulties in Tibet, and the damage to which delicate apparatus is liable in transit, make a lighter and less complicated equipment desirable for future expeditions. It is not absolutely essential to take a long-distance transmitter as well as a receiver to the Base Camp; reception is the main thing. But light transmitting and receiving sets for radio telephony between camps as far up as Camp V might be of great value; the field telephone wire, which we used in 1933 between Camps III and IV or IVa, could never be carried above the North Col. Now that the possibility of exchanging messages across the Himalaya has been proved, engineers will doubtless make a close study of the problem. Wireless equipment and staff should, I think, form an integral part of the next expedition.

10. The Future

I assume without hesitation that the attempt to climb Mount Everest will be continued. We cannot leave the work unfinished. So much is now known that we may reduce the odds of
fifty to one against, which Mallory thought represented the chances of a given party in a given year. The all-important psychological factor has, I think, changed. An ascent to at least 28,000 feet is almost regarded as a matter of course. Success may not come at the next attempt or till after many more attempts, but the end is certain. As soon as the Tibetan Government gives permission the struggle will be renewed, and our successors will use our experience and avoid our mistakes. Surely it is worth while to pursue one of the last great adventures which the surface of the earth has to offer.
Some Medical Aspects of the Expedition

Excerpts from the report by Raymond Greene

The medical problems of a great Himalayan expedition may be divided into many groups, of which the most important are the choice of personnel, European and Asiatic; the provision of medical equipment; the care of members of the party on the march and on the mountain, not only when afflicted by ordinary ills, but in the fight with the disorders associated with life in an environment to which their physiology is strange; and the observation of their reaction to this environment.

Every Himalayan expedition has taught a little more about the type of man required in an Everest team. We have learned the futility of vague generalisations about the "Everest figure" in comparing the tall spare form of Norton with that of the short and muscular Wagner. Tall men, short men, thin men and thick men have all done well and badly on Mount Everest. But two generalisations have borne the test of repeated expeditions. Every man chosen should be mentally and physically fit, for Mount Everest will accentuate his smallest imperfections of mind and body and bring into prominence his most secret failings. He must also be a good mountaineer. Mount Everest has
been under-rated in the past and called an easy mountain. Were this true, a good mountaineer would still be necessary, for even on easy ground an experienced climber moves with greater speed and with greater safety to his companions than a bad one. But we know that Mount Everest is a difficult mountain, as Mallory and Longstaff always said. In *The Reconnais- sance*, Mallory wrote: “Amusing to think how one’s notion of the last effort has changed; it looked like crawling half blind up easy snow, an even slope all the way from a camp on a flat snow shoulder; but it won’t be that sort of ground; we’ll want climbers and not half-dazed ones; a tougher job than I bargained for.” The ascent of any difficult mountain involves a considerable nervous strain. On mountains over 25,000 feet, at which height the effects of altitude become serious even in acclimatised parties, the strain is much greater. It becomes obvious in those of little self-control and appreciable to careful observation in the strongest characters. If to this unavoidable strain on the climber is added that of living under conditions never before experienced; lack of confidence in his climbing ability; fear of falling, whether conscious or subconscious, inevitable in an inexperienced mountaineer; perhaps most important of all, the fear of endangering his companions, he can hardly fail to handicap an expedition.

Next in importance after physical and mental fitness and mountaineering skill comes the question of age, a subject which it has always been difficult to discuss without prejudice. There can be little doubt that the best ages lie between twenty-five and thirty-five years, or that in this decade the first five years are preferable. No one without recent experience above 25,000 feet whose age is without these limits should be chosen as a climber. But a man who has had an opportunity to show himself an exception within the past two or three years may
well be a valuable member of an expedition, for there will remain with him a little something the new men have not got, an increased power of acclimatisation remaining from his previous experience.

Both for scientific and for sporting reasons an ascent without oxygen was preferred; but when the monsoon had broken and the party's strength had been reduced, time became a factor of prime importance and an assault with oxygen was planned. The apparatus lay ready at Camp IV, and there it remains. We did not succeed, owing to the dangerous condition of the North Col slopes, in reaching so high a point again. The monsoon robbed us of an opportunity to test the new apparatus in the conditions for which it had been designed. The question whether the weight, even of so light a load, may not counterbalance the good effects of breathing a necessarily restricted additional oxygen supply, remains in doubt. The practical value of an oxygen apparatus to healthy climbers is still a matter of conjecture. For the treatment of the sick oxygen is a certain necessity. Its value in pneumonia, of which we had two cases on the expedition, is well known. But it is also of great value in frost-bite, a disease in which it has seldom, if ever, been used before. Frost-bite is due to the insufficient oxygenation of the tissues. At ordinary levels this may be brought about by cold alone, for severe cold contracts the arteries supplying the extremities and superficial parts of the body. At great altitudes an additional factor is brought into play. One of the effects of a shortage of oxygen is to reduce the amount of blood pumped out by the heart every minute. This reduction in the "minute volume" of the heart causes a slowing of the circulation of
blood, which itself probably contains less than its normal oxygen freight. The danger of frost-bite is therefore greatly increased. It had occurred to me, and probably to many others, that the obvious treatment of frost-bite was the inhalation of oxygen, which would increase the "minute volume" and send to the extremities not merely an increased flow of blood, but of blood with a full freight of oxygen. After the final establishment of Camp V, three porters returned to Camp IV with frost-bitten hands. Only one of these seemed to me to require urgent treatment. In this I was wrong. To this one, Pasang Kikuli, I administered oxygen throughout the night. His hands when he arrived in camp were already swollen, dark, and cold: in the event he did not lose even his finger-nails. The other two, Pasang and the veteran Lhakpa Chedi, seemed only slightly affected and they did not receive oxygen, which was, it must be remembered, a precious commodity. Pasang lost one finger and Lhakpa Chedi two.

The principles which govern the choice of a well-balanced diet are becoming generally known. But where the safety of an expedition over a long period is involved, it is as well for the menus to be overhauled by an expert. The last expedition was well served by Dr. Zilva, of the Lister Institute. It was not Dr. Zilva's fault that a diet which looked well on paper tasted less well in the mouth. In fact, one of the most popular food-stuffs was the concentrated lemon juice suggested by him as an antiscorbutic. But the diet must not only contain a well-balanced mixture of fats, proteins and carbohydrates, arranged to give the necessary number of calories and containing the necessary minerals and accessory food substances. It must be
palatable. Former parties, fighting their way unacclimatised and in poor health up the slopes of Mount Everest, found that from the North Col upwards their appetites deteriorated. The 1933 party, well acclimatised and in robust health, retained its appetite, but became fastidious. Unlike our forbears, we were not prepared to live on condensed milk, jam and acid drops. We wanted meat, cut off the joint, and two vegetables. Urgent messages were daily sent to the harassed party at Camp III, and by them passed on by wireless to the Base, demanding mutton and ham and eggs. At Camp IV men dreamed, with childlike blissful smiles on their brown and hairy faces, of steak and onions and roly-poly pudding, while the more fiery spirits emptied into the crevasse tin after tin of a peculiarly loathsome tinned-meat ration, unpalatable at any height and inedible when great altitude had made gourmets of us all. At Camp VI Shipton, almost dumb with laryngitis, was heard to whisper hoarsely, “Oh, for a few dozen eggs.”

It has been said earlier that Mount Everest puts an unwarrantable strain on a man. There is no more potent source of irritation than bad food. It is probably one of the causes of that deterioration which inevitably occurs after long residence at a great altitude. Not only must all the food be of the highest quality, but the individual tastes of every member must be studied with the greatest care and without any regard for economy. In 1931, I wrote¹: “At great altitudes a man will rather underfeed than feed on what is lacking in appeal. Of Antony, Octavius Cæsar said: ‘In the Alps, it is reported he did eat strange flesh which some did die to look on.’ What was possible to Antony in the Alps is not necessarily possible to others in the Himalayas.”

¹ Greene, Kamet Conquered (Smythe), p. 344.
One of the commonest questions, a good second to "Was it cold up there?" is "How do you train for Everest?" The healthy man has no need of special training. The 300 miles of marching across Tibet will give him all the training he requires. One may go farther and say that more than this is harmful. The mountain will take the fat off a man very quickly and will then begin to reduce his muscle. One of my greatest regrets is my inability to develop a pendulous abdomen, with which I may satisfy the mountain's craving for human flesh. Any climbing of lesser peaks which may lie temptingly near the line of march is greatly to be deprecated. As General Bruce wrote: "The great danger lies in fatiguing and exhausting one's party before the real test comes." Mallory, confessing a temptation to train too much, wrote: "I might spare myself the trouble of such futile meditations. Experience seems only to show that, provided I habitually eat well and sleep well and take a moderate amount of exercise, I can do nothing to improve my endurance on a mountain." The climbers should keep themselves for Everest, and attempt to arrive at the Base Camp untired. Those who normally drink alcohol and smoke tobacco should continue to do so. Neither in moderation ever harmed a healthy man. In 1933 we did not take enough alcohol, and most of what we took was stolen. We had plenty of tobacco because many people found that smoking hurt their throats. At Camp IV public opinion forbade smoking in the tent, an extremely inconvenient and, in the opinion of one member, selfish point of view.

On the march the climbers must be protected not only against their own insane desire to climb mountains, but against a variety of ills for which they cannot be blamed. "Beachcomber" once said, apropos of a Sanitary Congress (I quote from memory): "I wonder whether the people who talk about
boiling things ever thought of boiling their heads?” While admitting his general thesis, it is impossible to deny the danger to health of the filthy habits of native cooks in a country where dysentery is endemic. The Sherpa or Bhutia sees no sense in the cleaning of pots or washing of dishcloths. Himself apparently immune to any but the most virulent dysentery, he looks upon the boiling of water or milk as an insane whim of the doctor. Only unceasing vigilance and frequent visits in rubber-soled shoes will ensure his co-operation. Dirty plates can so easily be cleaned with a little saliva or the tail of the shirt. Boiled water once cooled is indistinguishable from water gently warmed. If the amount of sediment in the water is small, it is easier to put it into the lower chamber of the filter, whence it can be drawn immediately for the thirsty and impatient sahibs. Yet, whether by luck or by constant care, the attacks of internal troubles which did much to reduce the strength of previous parties were happily avoided, and no serious abdominal illness occurred on the march across Tibet.

One of the worst menaces to health on the march across Tibet is the dust. At varying times between dawn and breakfast time, there arises the famous “afternoon” wind of Tibet, which blows till midnight. It blows into mouth and ears and eyes, water, food and cooking-pots, tents and kitchens, a fine yellow dust, which would be irritating and dangerous enough if it contained only the clean sand of the desert. Coming from the soil of age-old camps in which sanitation is unknown, it is doubly dangerous. It was responsible in 1933 for an epidemic of sore throats and sore eyes amongst the porters, but the majority of the Europeans escaped. This may possibly have been due in part to the institution of a daily throat and nose toilet, a disgusting performance which was known to keep a
whole village spellbound and to rid us of the attentions of beggars for an hour at a time.

Sore throats, sore eyes, an occasional cold, two or three minor fractures, were our only troubles on the march. But when the discomforts of the road had been exchanged for the comparative comfort of the Base Camp, other troubles began to appear. Wyn Harris developed influenza, and Wager a less dignified complaint. Crawford, whose respiratory apparatus had been functioning ill for some days, retired to bed with bronchitis and was finally sent down to convalesce in the Kharta valley in the company of the apparently dying Ondi. Finding his progress in the Kharta valley slow, he returned to the mountain and climbed to Camp I, where he immediately recovered.

Happily these ailments were no hindrance to us, for a plan of careful acclimatisation had been formed which necessitated delays. We had learned from the distressing experiences of our predecessors, and were determined that no impatience, enthusiasm or brilliant weather would deflect us from our plan of spending at least four days at every camp, in order that our bodies should accustom themselves to the progressive decrease of oxygen in the air we breathed. In 1921 Colonel Howard-Bury recorded headaches among the porters at only 18,000 feet. He himself experienced great lassitude even late in the season on his way to the 20,000-foot camp. At this camp he confessed to laziness and a lack of mental concentration. He also noticed blueness of the faces and hands of his companions, whereas on Kamet in 1931, where acclimatisation, though not as strictly enforced as on Mount Everest in 1933, was carefully considered, I failed to detect any blueness at all at any altitude.¹ Sleepless-

ness was a common experience in 1921. The deep breathing realised to be essential was a conscious effort. Mallory felt mountain-sick on one occasion at least, and many coolies were seriously mountain-sick at only 22,000 feet. Some of Morshead’s coolies succumbed on the Tang La, at only 17,980 feet; Norton below the Jelap La, at only 13,500 feet. Mental symptoms were noted too; Mallory confused the identities of Longstaff and Morshead after the first attempt on the summit in 1922. I have sometimes wondered whether one chapter in *The Assault on Mount Everest*, in which the author describes a process of breathing through the skin quite unknown to science, was not written at a great height. Irritability in previous parties, quickly regretted and forgiven, sometimes occurred, as described in Norton’s account of the ascent to the North Col in 1924. Great difficulty was often experienced in persuading porters to start in the morning. The appalling panting of unacclimatised men, the air starvation, the rapid pulse, the lassitude which made of every step a struggle, the sleeplessness, irritability, mental deterioration, grinding headaches, mountain-sickness and loss of appetite which are described so well in the accounts of former expeditions, are all the symptoms of lack of oxygen. In so far as acclimatisation is capable of removing these symptoms, we were determined to give it every chance. Our efforts were rewarded to a remarkable degree.

According to modern theory, acclimatisation to great altitude takes place in three ways: an increase in the number of red blood corpuscles, whose function is oxygen carriage; an increase in the ventilation of the lungs; and possibly active secretion of oxygen by the lung epithelium. Of these the increased ventilation is by far the most important. There is no use in increasing the number of oxygen carriers if there is no oxygen to be car-
ried, especially when sufficient carriers are already present, provided that loads can be given them. The increased ventilation takes place in the following way. The first deep breathing of the ascending climber is probably caused by the direct effects of oxygen-lack, which renders the respiratory centre in the brain more susceptible to changes in the acidity of the blood. The deep breathing washes carbon dioxide out of his blood and so lowers its acidity. It is the duty of the kidneys to correct this lowered acidity by secreting more alkali and thus making the blood more acid again. When the blood is more acid, the breathing is deeper and more oxygen is taken in. Acclimatisation has occurred. But the kidneys have to be taught this function slowly.

Perhaps the most obvious reward of our tactics was the absence of serious respiratory distress. Breathing was occasionally disordered in several members during their first night at a new altitude. Except in the case of one slow acclimatiser, this trouble passed off rapidly. Very little distress was felt during exercise and, of the fourteen climbers, thirteen reached the North Col without having experienced serious discomfort. So also did the Signals Officer of Camp III, Smijth-Windham, who is not a climber. The one exception was Wood-Johnson, who had not noticed up to Camp III any increase in his breathing, so quiet and unconscious had it been. He unfortunately contracted a gastric ulcer, a disease which cannot be ascribed to the effects of altitude, and, after six years devoted to preparation for Mount Everest, was forced to abandon all active participation in the work. Above the North Col, proper acclimatisation was made impossible by the weather and by the nature of the ground. Yet our respiratory distress was not great. In the ascent to Camp V (25,700 feet), though my heart was functioning poorly, I was far more comfortable than on the final
slopes of Kamet (25,447 feet). Those who climbed above Camp VI needed only two or three breaths to a step, and found frequent halts unnecessary. On the porters, the effects of acclimatisation were equally remarkable. There were no cases of mountain-sickness, and there was never a shortage of volunteers for Camps V and VI. Never was there any difficulty in making them start in the morning, even under the worst conditions; yet the weather was, according to the evidence of those who were present on both occasions, far worse than in 1924. I am sure that men like those who attempted Mount Everest in 1924 would never have been forced to retreat from Camp III to the base, had they been properly acclimatised and therefore fit.

In other particulars also acclimatisation proved its value. I have already spoken of our excellent appetites. Headaches were uncommon. Most men slept well throughout, except sometimes on their first night at a new camp or where the discomforts of their position were too great. Smythe, alone at Camp VI, slept for thirteen hours. The lassitude was less than we had expected. The party was remarkably fit, cheerful and energetic, even at camps above the North Col. Mental deterioration, apart from occasional irritability, was only noticed by those who went above Camp VI, or who were at the time sick men.

But at last came deterioration. The concept of deterioration has had a chequered career in the history of Himalayan climbing. There was a time when it bulked so large in the imagination that the possibility of acclimatisation shrank into insignificance. During this period it became a bogey, and peaks of moderate altitude were “rushed” to avoid the appalling consequences of prolonged residence at a great height. Longstaff delayed the coming of the light by his astounding effort in climbing 7,000 feet in a day to the summit of Trisul (23,406 feet), at that time the highest mountain which had been
climbed. But the recent series of great expeditions on Mount Everest, Kangchenjunga and Kamet all produced evidence in favour of the opinion long held by physiologists that the greater peaks could not be climbed unaided by artificial oxygen, unless time were given for acclimatisation to occur. A reaction then set in and deterioration was forgotten. Some even denied its existence, though one school continued, assuming the majesty of Jove, shaking the spheres and threatening thunderbolts, to believe in its importance. But, however interesting and important to the scientists may be laboratory experiments on animals, like those of Dr. Argyll Campbell, the ordinary man prefers to turn to the evidence of field experiment. Accounts of all the expeditions named show evidence of deterioration to the careful reader, but especially those of the former attempts on Mount Everest. During the move to Kharta in 1921 Howard-Bury described the coolies as "stale from remaining at heights for a considerable time." "Living at great heights," he later wrote, "lowers the vitality enormously." Mallory, in the same year, wrote: "The long periods spent in high camps and the tax of many exhausting expeditions had undoubtedly reduced the physical efficiency of sahibs and coolies alike." Somervell wrote in 1922: "Some of our number (especially the older ones among us) actually seemed to deteriorate in condition while staying at a great height." In 1924 all those who went high were found by Hingston to have damaged hearts.

These observations were confirmed and extended in 1933. Probably as a result of the delays caused by bad weather at Camps IIIa and IV, signs of deterioration began to show themselves on the North Col. Several climbers reported that they moved progressively more slowly on each ascent to Camp V. But it was later, in the course of the abortive last assault, that the signs became most obvious. The party of survivors at Camp
III degenerated rapidly. Crawford and Brocklebank, slow acclimatisers whose activities had been confined to the mountain below the North Col, were unaffected. But the rest of us appeared less energetic and lost appetite and weight. The effect of exercise on our pulse rates showed that our hearts were less efficient than before. The party had shot its bolt.

These observations agree with those made by Dr. Argyll Campbell on laboratory animals, and one must agree that in all probability prolonged shortage of oxygen is directly or indirectly the most important cause of deterioration. The shortage may be the direct cause. But it seems at any rate possible that acclimatisation, itself originally due to oxygen-lack, may carry deterioration with it as a noxious by-product. Crawford and Brocklebank, slow acclimatisers, were also slow deteriorators. It is unlikely, however, that deterioration is due to any one cause. Staleness in a boat's crew is due to boredom. Life on Mount Everest is an alternation of monotony with periods of great nervous strain. The food is monotonous and badly cooked. Cold and wind and snow injure the morale. All these undoubtedly play a part. An unacclimatised man is a fit man under difficulties: a deteriorated man is an unfit man with those difficulties greatly reduced. Major Hingston has brilliantly compared the interaction of acclimatisation and deterioration on a high mountain with the interaction of increasing toleration for alcohol with a concomitant undermining of the general health. The practised drunkard may pass as a sober man: he has become acclimatised by practice to his swaying environment. Yet he may at the same time be a very ill man.

The physiological problem of Mount Everest appears to lie in the difficulty of taking the middle way between rush tactics with mountain-sickness and siege tactics with deterioration. In 1933 siege tactics, owing to the weather and not to any fault
of organisation, were overdone. But this admission should not be used as an argument for rush tactics, for the condition of the climbers at 28,000 feet was so good that there can be little doubt of their capacity in good conditions to climb Mount Everest without oxygen and without permanent harm. All those who suffered heart and other troubles due to altitude were soon in robust health again. They suffered no permanent danger to livers or hearts.
On this expedition, with no special collector, we could not hope to add much to the extensive work of earlier expeditions. We judged it best to concentrate first on the higher elevations at which any plant life was found and then on the plains of Tibet, treating the monsoon valleys as the least important. The valleys, in the north of Sikkim at any rate, are available to any botanist who can spare a fortnight's leave, and have, moreover, been extensively worked by experts from Hooker to Cave. The plains of Tibet and Mount Everest have, on the other hand, only been visited a few times, and no one can say how often we may be in a position to visit them in future. In any lists that I have seen of the collections made by previous expeditions the flora of the valleys has been combined with that of the tableland and mountain. As might be expected, the moist climate and comparatively low elevation of the former produce a luxuriant vegetation far richer in species than that of the latter, so that in any combined list the valley species outnumber and swamp those of the tableland and mountain. We therefore kept as full notes as possible on distribution, and we have tried to show in our lists the plants most commonly found in various situations.

It might be supposed, and I believe this was expected by
some botanists, that the earlier and lowlier forms of plant life, such as lichens and mosses, would ascend the mountain to higher elevations than the flowering plants. This was not so. The highest plant found this year, perhaps the highest ever found, was a straggly Crucifer with a pale pink flower, which was growing on the moraine of the East Rongbuk glacier below Camp II at an elevation of 19,000 feet as nearly as we could judge. It was rooted in a pocket of wet glacier sand and had struggled up to the light so as to hold its flower and leaves under the shade of one of the rocks of the moraine. A similar plant was found on the Kongra La at about 16,000 feet. Whether both are of the same species remains to be seen when the specimens are identified.

It may be held that an isolated plant like this, happening to germinate at this extreme elevation, should be regarded as an exception. The highest elevation at which plants normally occur on the north face of Mount Everest is a few hundred feet above 18,000, just above Camp I. Here the species that appears to go highest is a cushion-plant with moss-green, and rather moss-like foliage and small white flowers—an Arenaria I believe. Just below this, at the elevation of the camp itself, about 17,700 feet according to our reckoning, some twenty species are found, including a moss and an Ephedra, but mostly Dicotyledons with smallish but quite showy flowers. At this elevation the family best represented is perhaps Compositae, the members of which are mostly protected by white down.

The lichens seem to stop short at about Camp I, at about 17,700 feet or perhaps a little lower. Judging by colour, there appear to be about five species—a grey, a green, a yellow, a red, and a black.

The whole life of the vegetation of the mountain, of the tableland and passes of Tibet, and even of the upper parts of
the monsoon valleys, is subterranean for at least three-quarters
of the year. When the expedition gets above the tree-line, at,
say, 13,000 feet, on its outward journey towards the end of
March, it has seen very nearly the last green thing that it will
see until flowers begin to come out and the hidden vegetation
comes to life again at the Base Camp in early June. A few
green bushes of the gorse-like Caragana near the stream in the
sheltered valley at the back of Kampa Dzong, and a couple of
acres of green in the irrigated willow-garth at Tashidzom are
the only relief from the absolute desert of Tibet in winter.
It is almost impossible to believe, at this time of year, that the
whole country is not as barren as the Sahara. All that shows
above the surface on the plains round Tatsang are a few
greyish cushion-plants, looking more like stones than vegetation,
while, on the sandy plains round Shilling, Caragana
bushes are up to their necks in drifted sand and look dead.
In spite of its barren appearance the tableland supports gazelles
and herds of wild asses, which contrive to find a living through-
out the long winter, and not a scanty living either, for they are
as fat as butter.

The plateau is not dead, it is only asleep for three quarters
of the year, every plant sheltering underground from the bitter
winds that blow out of the west. Early in June the cushion-
plants turn green, the half-submerged shrubs send out new
shoots, flowers spring up from unseen roots, and everything
prepares to rush through the business of flowering and setting
seed in the short season before winter is again upon them.
The whole desert is in bloom, for there is no time to be lost
and everything is in flower together. Incarvillea Young-
husbandii is a startling flower like a gaudy pink convolulus
springing direct out of the bare earth with a hardly noticeable,
flat rosette of leaves pressed against the ground. On sandy
plains a beautiful mauve iris (*I. kumaunensis*) grows everywhere, and occasionally one of the blue poppies, the forget-me-not one and the most handsome. Blues and mauves are favourite colours for the flowers of the plains of Tibet, and one of the commonest of all is a leguminous plant (*Oxytropis sp.*) with feathery foliage and bluish-mauve flowers.

Along the larger rivers of the plateau there are in places small groves of *Hippophae*, a large thorny shrub, almost a small tree, rather like sea-buckthorn. At a place called Tsering-me on the Dzakar-Chu, one march down-stream from Tashidzom, I was puzzled by an old and gnarled but still vigorous tree nearly eight feet in girth. The foliage seemed familiar, but it was some time before I recognised that it was nothing more than a giant *Hippophae rhamnoides* which, having outgrown the necessity for self-defence, had given up producing thorns, “like the high branches of a holly tree.” It had evidently acquired sanctity, judged by the number of flags tied to its branches; perhaps this had contributed to its long life. It would have been interesting to know how old it actually was.

I have mentioned the willow-garth at Tashidzom as a sort of green oasis on the outward journey; on the return it was a perfect flower-garden. How it would strike anyone fresh from an English country-side is hard to say, but after months among barren moraines it was like the freshness of Colombo after arid, dusty Aden. The flowers standing in the long grass were much like those of an English meadow, though not many were actually identical. The favourite colour here was yellow—dandelions, potentillas, buttercups, mustard, a primula and a long-tubed *pedicularis* particularly. The trees in these rare irrigated and walled-in gardens are mainly willows, pollarded or coppiced at various heights to supply the village with withies, but there are generally a few huge poplars also planted.
Such places are full of birds and are the only nesting-places for many species. Magpies are always common in villages where there are any willows, and the trees are full of wrens, warblers, and some of the less common small birds. At Tashidzom there were grey-backed shrikes, hoopoes, and crag-martins always somewhere about the garden, and a pair of Tibetan hares spent the night among the long grass. Outside the garden were the common birds of a Tibetan village, tree-sparrows, house-martins, rock-pigeons, ravens, and kites. The Brahminy duck and bar-headed geese, which had been so tame there on our way through in April, were now busy with their broods and keeping out of the way of mankind.

The birds of the Base Camp were above all the yellow-billed chough, the rock-pigeon, and the red-breasted accentor, which this year was commoner than the little brown accentor, the friend of the 1922 and 1924 expeditions. These birds were with us most of the day, arriving at daybreak and leaving at sundown. Most evenings a few snow-finches would spend an hour or two in the camp, and for a week or so after our arrival a pair of rose-finches frequented the frozen pond in the early morning. I expected them to breed somewhere in the neighbourhood, but they seemed to have found a better spot, and I never saw them again. This year, as far as I know, the lammergeyer only visited the Base Camp twice, a mature bird shortly after we arrived, and a full-grown bird in immature plumage about the first week of June. The most surprising bird to meet at this elevation was a solitary Indian rufous turtle-dove, which attached himself to the rock-pigeons and appeared in the camp on two or three occasions about the middle of June. This bird has been recorded from the Kharta valley, which is not far off and is perhaps the roosting-place of the rock-pigeons.
Of the birds of the plateau the most noticeable, on our arrival, were the snow-finches, which share their burrows with the mouse-hares. They were still about on our return across the plains in July, when their glorious song, beginning before it was fully light and going on into the night, if there was an early moon, is one of the delights of Tibet. When I say that the larks were not conspicuous until they began to sing, I mean the Tibetan skylark, who is the best songster. The Calandra lark, strikingly marked and as big as a mistle-thrush, is always conspicuous, and so is Elwes's eared lark, perhaps the commonest bird of the plateau and coloured rather like a ring-plover.

I think we saw less of the mammals of Tibet than we did in 1924. The wild ass and Tibetan gazelle were fairly often sighted, and ovis ammon once, I believe, by some of the party. I did not hear of anyone seeing a marmot this year, though I once heard one, and saw a dead one that had been killed by a dog below the Kongra La. I only once saw the rock-pika, and that was in Sikkim and not Tibet. The herd of burhel, as usual, visited the Base Camp several times and a cinematograph picture was taken of them. Those interested in that elusive species, the abominable snow-man, will be sorry to hear that there were no reports of either him or his tracks this year.
Although unexpected climbing difficulties confronted the 1933 Mount Everest Expedition, the main cause of failure is to be put down to the adverse weather conditions. If a party established at Camp VI, and acclimatised to the extent attained in favourable cases this year, could have had one or two days of snow-free rocks and calm weather, there seems to be no reason why the summit should not have been reached. What, then, are the chances of getting two days of the right weather, and when is this likely to happen? This question was asked repeatedly during the course of the expedition, but it only revealed how little is known of the weather in the Mount Everest region.

As in most mountain districts, the weather in the neighbourhood of Mount Everest is extremely variable. There is the usual short-period variation which determines whether progress can be made on the mountain on any particular day or not. Good judgment of this variation would often prevent waste of valuable time, and would be a safeguard against the dangers which may result from unexpected changes. But besides this there is a seasonal change in the weather, which is just discernible through the short-period variations. The climber on Mount Everest is beginning to experience with satisfaction
somewhat warmer days and less strong westerly winds when another, but in this case adverse, seasonal change sets in, namely, the oncoming of the monsoon. Monsoon conditions quickly change the north-west face of the mountain, which in winter is bare rock, into a dead-white snow-covered face impossible to climb. The whole timing of a Mount Everest expedition depends on what is known, and what is surmised, of the date at which the monsoon will begin.

What little information exists about the weather in the Mount Everest region is solely the result of the previous expeditions. Mallory gave a valuable general account of the weather and snow conditions experienced by the reconnaissance expedition from the middle of June to the middle of September 1921. Unfortunately, only scattered observations have been recorded for the 1922 and 1924 expeditions. Ruttledge, therefore, wisely determined that this year systematic weather observations should be made.

Although our experience of the weather in Southern Tibet amounts to little more than a quarter of a year, yet it covers the change from winter to summer. From the observations of the few other travellers in this region, it is clear that the winter conditions which we experienced hold roughly from November to May, and the warmer and somewhat damper summer conditions from June to October.

The difference, however, between summer and winter is apparently not great. The general barometric pressure at the Base Camp remained the same. The diurnal variation and the longer period variations also remained unchanged in amount and character. In summer and winter alike the prevailing wind

1 Mallory, G. H. L., in *Mount Everest: the Reconnaissance*, 1921, Chap. XVI.
was westerly, the only difference being that the winter wind was a little stronger than the summer wind both on the Tibetan plateau at 14,000 feet and on Mount Everest at 30,000 feet, as judged by clouds.

The usual weather régime is modified, but not greatly, by two main factors, the so-called westerly depressions and the Indian monsoon. The depressions moving from the west over Southern Tibet and occurring in both summer and winter seem to cause more air to be drawn from the south, with an increase in the strength of the wind and the amount of precipitation. The monsoon had no effect on the barometer at the Base Camp, and the south-east monsoon current reached the north side of the Mount Everest group only once during the period of our observations. The monsoon, however, provides more moisture than is available in the winter, and there is consequently more precipitation on Mount Everest and in southern Tibet.

In 1933 the weather on Mount Everest was undoubtedly set against a successful conclusion to the expedition, and probably it is fair to consider that the weather was exceptional. Mallory states that in 1921, on June 19th, the expedition at Ponglet was drenched by a storm which was followed by a general break in the weather, but even a few days later the north face of Mount Everest was described as still comparatively black. Apparently that year monsoon conditions did not arrive till late June. In 1922 the snowing up of the top part of Mount Everest began in early June, which is about the same time as in 1933. In 1924, there was good weather from May 28th to June 8th, and it was considered that the monsoon did not actively break until June 16th. This year, by May 30th the slabs on the north-west face of Mount Everest had a sprinkling of snow which was enough to make climbing slow and difficult.
There was still more when an attempt was made on the summit on June 1st, and after this snow continued to accumulate until we left the district. At the end of July and the beginning of August, Darjeeling enjoyed an almost unique spell of fine weather, and it would have been interesting to have known what the conditions were like on Mount Everest at this time, but unfortunately we had all left the district. In India there is a belief that heavy and late winter snowfalls in the Himalaya mean a late monsoon; in 1932–1933 there was said to be a heavy winter snowfall, but the monsoon arrived in Bengal exceptionally early.

Whether there is any reasonable chance of climbing Mount Everest during the monsoon period or in September is not definitely decided. The only evidence so far is that obtained on the reconnaissance expedition in 1921. This year we left the mountain at the beginning of July. It was then deeply covered in snow, and it is probable that this would never become sufficiently compacted to allow a climber to walk on it easily; but it is just possible that if violent west winds occur in July, August or September they might remove sufficient snow to allow the mountain to be climbed before the excessive winter cold sets in.

In conclusion, let me set down a plea for more extensive observation of the weather conditions when next the ascent of Mount Everest is attempted. The data obtained would contribute to the success of all future expeditions to the Eastern Himalaya, and it may be that Mount Everest itself will not fall to the next attempt. Perhaps it might be arranged to include a meteorologist in the party, but in any case daily weather observations should be made and continued into September, even if the main part of the expedition should return earlier.
Several members of the expedition should make themselves competent observers. The instruments should be carefully considered before the expedition sails, special instruments in some cases being designed, and the Indian Meteorological Department should be asked in good time to give all possible help.
Index

Abruzzi, Duke of the, 31
Acclimatisation, 24, 31-36, 43, 60, 63, 88, 98, 108, 115, 124, 125, 140, 146, 156, 159, 172, 293-296, 313
Gyantse, importance of, 293
Ruttledge’s policy, 217
should be slow, 140, 217, 292, 296
Aconite, 268
Agent to expedition, 88
Alcohol, 31 I
Algarra, 92
Alipore, 77, 158
Alpine Club, xvii, 29, 41
Anderson, Sir J., 76
Aneroid, 59
Ang Tarke, 178, 189
Arabian Sea, 280
Army and Navy Co-operative Society, Ltd., 63, 76
Assaults, The, 29, 37, 293, 314
Assaults (1924), 35
first, 190
second, 209
third attempt, 235
Asses, wild, 322, 325
Athletics at Tengkye-Dzong, 115
Avalanches, 34, 151, 155, 173, 248, 249
Average age of expedition, 47
Bahadur Gurung, 88, 139, 245
Bahan Dopté pass, 114, 117
Barometer, 59, 327
Base Camp, 36-37, 60, 62, 86, 95, 104, 118, 142, 147-148, 157-163, 181, 184, 190, 208, 235, 238-246, 252-
255, 258, 282, 286, 292-294, 303-304, 309-311, 324-325, 328
arrival and rest at, organisation of, 134
birds, 324
departure from, 140
fauna and flora, 242, 321-323
return to, 239
wireless at, 139
Bavarians, 79, 152, 275
Beetham, 35, 282
Bell, Sir C., 26
Bengal, Bay of, 281-283
Bhutia, 30, 82, 165, 182. See also Porters
Birds, 242, 324
accentor, 324
bar-headed geese, brahmini duck, 324
calandra lark, 325
coughs, 242, 324
Elwes’s eared lark, 325
lammergeier, 242, 324
linnets, 242
magpies, 324
rock-pigeons, 242, 324
snow-finches, 324
Blessing, ceremonial, see Porters
Books, 62
INDEX

Boots, 53-55, 217
   for camp, 54
   porters', 54, 55, 94, 120

Boreham, C. E., 76

Boustead, Major Hugh, 46, 62, 92-93, 102-103, 115, 124, 126, 140-141, 143, 148-149, 153-155, 158, 164, 170, 175, 181

Boxes, 63
   Venesta, 63

Brand's Essence, 60, 71, 168, 215

Brocade, Kinco, 132

Brocklebank, Mr. T. A., 46, 90, 93, 125, 127, 135, 140-141, 148-149, 156, 158-164, 172, 179-181, 194, 201, 208, 236, 244-247, 249, 251, 265, 265, 275-276, 282, 318

Bruce, Brig.-Gen. Hon. C. G., 25, 31, 36, 41, 50, 56, 82, 100, 101, 106, 132

Bruce, Geoffrey, 31, 35, 37, 41, 297

Bullock, 30

Burhel, 325

Calcutta, 76, 93

Cameras, cinema, 62

Camp I, 54, 133, 135, 138-142, 147, 156, 183, 239, 313, 321
   establishment of, 140
   return to, 239

Camp II, 54, 61, 135, 141-143, 147-149, 153, 156-157, 181, 238-239, 245, 249, 286, 294
   climate, 143
   establishment of, 142

Camp III, 36-37, 52, 62, 142, 147-150, 153, 155, 158-162, 165, 172, 179-181, 189-194, 208, 235-236, 239, 244-246, 249-252, 255, 256, 256, 286, 291-292, 303-304, 310, 315-318
   climate, 150
   establishment of, 147
   tents, 158

Camp IIIA, 153, 156, 163, 180, 236, 286, 317
   establishment of, 153-156
   tents, 156
   weather at, 156, 163

   dangers of, 167

Camp IV—(Continued)
   establishment of, 74, 158
   evacuation of, 59
   tents, 159

Camp IVA, 179, 181, 188-190, 233-235, 252, 304
   establishment of, 179

   attempt to establish, 162-170
   establishment of, 74, 170
   reached by Longland, 188

   establishment of, 39, 74, 185
   health at, 60
   tent at, 185

Camp VI of 1924, Norton's, 37, 39, 187, 212

Camp VII, 67-70, 75

Campbell, Dr. Argyll, 317

Carbohydrates, 60

Carrier, tubular steel frame, 63, 239

Caucasus exploration, 24

Causes of failure, 287

Chago La, 107

Chang La, 30, 136

Chatterjee, Mr. N. P., vii

Chelmsford, Lord, 26

"Chhoti barsat," 235

Chiblung-Chu river, 118

Chin-Narbu, 179

Chomiomo, 107-108, 271

Chomo Lhari, 99, 104, 105

Chonzay, 121, 135, 139

Chö-oyu, 167, 211, 215

Chöten Nyima La, 265

"Christmas boxes," 61

Chumbi river valley, 89, 100, 104, 285

Chumbitang, 99

Chun-Chun, 83

Chushar, 263-265

Cinema films, 62

Climbers in 1922 expedition, 31, 34.
Climbing parties, 66, 125
personnel, qualities required, 300
season, 31
training for, 73, 310
Cloud, 143
Communications, lines of, 142
messages to Press, xx, 303
post, 84, 93
wireless, 62, 87, 302. See also Signals; Telephone
Cookers, methylated, 214
"Tommy," 61, 185, 194
Cooks, 83, 86, 153
on North Col, 59
See Chun-Chun; Tenchenden
Cornice, 166
Couloir, the great, 196-198, 221, 222, 300
subsidiary, 198, 219-222, 300
Crag-martins, 324
Crampons, 31, 146, 154
Crucifer, highest plant found, 32
Curzon, Lord, 26
Cyclonic storms, 281
Daily Telegraph, 51, 84, 173
Dalai Lama, 27-28, 41
Darjeeling, 29, 35, 77-91, 95, 100, 202, 244, 246, 285-286, 292
health at, 285
wireless station, 302
Da Tsering, 118, 178, 191
Davis, Sir R., 58
Dentistry, 98
Deterioration, 66-70, 292, 316
Diary, 154
Dikchu, 276
Dipon, the, 100
Disturbances, 143, 159
Dochen, 117
Dongka La, 107, 109
Donkeys, 118
Dudh Kosi, 78
Dust, 111, 117, 312
Dyrenfurth, 44, 47
Dzakar-Chu, 323
Dzaza Sardar Badahur, 85
Dzongpen, 84, 93, 105, 109, 114-117, 120, 123, 252, 254, 260, 264, 268
Eggs, 61
Engine, petrol, 139
Equipment, 51-63
Everest, "a difficult mountain," 298
assaults, 190-201, 209-234
climbing routes, 37, 137, 151, 183, 195, 219, 222, 256, 299, 300
climbing season, 31, 250, 251, 282-284, 326, 329
cloud-baner, 143
couloir, great, 38, 130, 136, 195-198, 219-221, 300
couloir, subsidiary, 198, 219-222, 300
description of, 135-138
first sight of, 108
first step, 127, 136, 171, 196, 199, 218, 223, 227, 300
future of, 304, 329
height, 136
history of, 23
idea of climbing, xvii
north-east arête, ridge and shoulder, 38, 74, 127, 136, 150, 174, 185, 186, 195-196, 199, 206, 218, 229
north face, 30, 127, 137, 150, 167, 184, 196, 203, 221, 249, 257, 282, 284, 300, 321, 328
north ridge, 34, 37, 136, 150, 166, 174, 186-190, 200, 211-213, 228, 232-233
passport for, see Passport
political and religious obstacles to approach, 25-28
previous expeditions, 29-40
second step, 38, 39, 67, 74, 127, 137, 195, 200, 205-207, 212, 219, 221, 226, 229
slabs, see Slabs
south-east face, 247-255
summit, 67, 75, 130, 136, 151, 186, 198, 208, 221, 238, 247, 291, 298, 329
third attempt, 235
tree-line, 322
weather, 326-330. See also Weather
western wall, 197
yellow band, 137, 185, 195, 213, 219, 222-227
Everest Expedition (1922), 29-34
(1924), 35-40
(1933), cost of, 51
INDEX

Everest Expedition—(Continued)
departure of, 34
leaves England, 70
members of, 93
plan of climb, 76
Examination, see Medical

Fellowes, Air Commodore, 137
Fight for Everest, The, 40, 205, 293
Films, 62, 170
Filter, 88
Finances, 51, 94. See also Everest; Money
Finch, G. I., 31, 34, 57, 169, 188
First assault, 170-201
second, 207-201
34
Fish, tinned, 21
Food and diet, 57-61, 216, 239, 309
Food supplies, list of, 59-61
Ford, L. W., 87
Forecasts, see Sen
Frames, carrying, 63
Frawley, Corporal W. J., 87
Frost-bite, 178, 182, 195, 239, 308
Fruit drops, 71
tinned and preserved, 60, 168
Fruits, dried and crystallised, 71
Fuel, 61, 78, 102, 139. See also Kerosene; Meta; Paraffin; Petrol; Tommy Cookers; Yak-dung

Gaggan Singh, 88, 139, 242
Galinka, 102
Gangtok, 89, 93, 95, 110, 277-278
Gatong, rope bridge at, 260
Gautsa, 89, 103-104
Gazelles, 322, 325
Geese, bar-headed, 324
George V, King, 51, 252
Ginger, 71
Giru, 270-271
Glacier camps, 135. See also Troughs
Glacier troughs, lassitude due to, 146
Glissade, 156, 166, 178
Wyn Harris's, 200
Gloves, 56, 175, 178, 217
Goggles, 54
Goodenough, Admiral Sir W., 41
Graham, Dr., 91
Greene, Dr. C. R., 45, 52, 58, 78, 91, 94, 98, 103, 114, 117, 120, 124, 126, 134-135, 138, 140, 148-149, 155-158, 162, 164, 169-172, 179-
Gurkhas, 77, 78
Gyachung Kang, 211, 215
Gyantse, 114-118, 263
Gyantse, 285, 293
Gyembros, 105

Hamilton, K. A., 76
Hazard, 35
Heart dilation, 35, 244, 294
Herrings, 168
High altitudes, effects of, 57, 66, 88, 134, 143, 146, 244, 284, 285, 293, 318
Himalaya, eastern, 284
Himalayan exploration, 24. See also Obstacles
Honey, 71
Hoopoes, 115, 324
Houston Expedition, 137
Howard-Bury, Lieut.-Colonel, 26, 29, 313
Ice, 151, 154, 231
on Everest, 231
See Glaciers; Rongbuk glacier
Ice-axe discovered, 195, 202
Ice-axes, 55, 156, 195, 200, 202-208, 222, 261
Ice-wall, 153, 156, 168, 180, 202
Indian Meteorological Department, 330
Influenza, 134
Interpreter, 83
Irving, 35, 39, 58, 187, 203-207, 212, 218, 229, 297
Jams, 60, 71, 72, 168, 216
Jelap La, 89, 101, 314
Jikyop, 118
Jingmi, 239
Jongsong peak, 108
Kailas, Mount, 24
INDEX

Kalimpong, 77, 89-92, 101, 126, 277
depture from, 90

Kamet (1931), 29, 44, 82, 126, 175, 313, 316

Kampa Dzong, 29, 89, 93, 105, 108-111, 120, 265, 268-270, 275, 322
dust at, 111

Kangchenjagu, 107-108, 271


expedition (1930), 44, 47, 83, 156, 317

Karma Paul, interpreter, 83, 89, 100, 117, 131, 139, 242, 254, 269, 274

Karpunang, 98

Kellas, Dr. A. M., 107, 109

his grave, 111, 270

Kerosene, 61

Khajuk monastery, 100

Kharkum, 260

Kharta, 93, 236, 243, 260, 317

river, 259

valley, 30, 138, 148, 236, 258, 260, 313, 324

Khengu, dust at, 117

Khojak, 262

Kipa Lama, 185, 188, 191, 202

Kites, 324

Kodak, 62, 170

Kongra La, 274, 321, 325

Kronquist, Miss, 274, 275

Kumaun, 24, 44

Kydd, W. J., 88, 90

Lachen, 89, 93, 263, 265, 275

Lachman Singh, 88, 139, 142, 146, 238, 245

Ladders, 56

rope, 57, 152, 157, 246

Lamas, 85, 100, 122. See also Rongbuk

Lammergeier, 242, 324

Laspati, 86

Lassitude, 146

Leader, xx, 109

qualities required, 291, 301

Ruttledge chosen, xx, 42

Ledge, 156, 162, 173, 219, 232

Leeches, 275

Lemon juice, 60

Lewa, 82, 116, 254

Lhakpa Chedi, 82, 115, 122, 164, 274, 309

Lhakpa La, 30, 150, 252

Lhasa, 25, 26, 100, 106, 109, 114, 293

Lho Cha-mo Lung, 28

Lhonak, western, 263

Lhonak La, 263

Library, travelling, 62

Lichens and mosses, 321

Limestone, 34

Lingga, 114, 267

Lister, tea-planter, 91

Lobsang Tsering, 84, 92, 110, 117, 277

Loganberries, tinned, 194


Longstaff, Dr. T. G., 25, 26, 31, 43

Lunge Bur, 106

Lungme, 258-260
camp, 260


McSwiney, Major S. A., 84

Makalu, 108, 150, 247-248


Mallory's ridge route, 38, 150, 201

Malt tablets, Horlick's, 71

Masts, wireless, 139

Matthews, Bryan, 59, 111

Matthews respirator, 111

Meade tent, 52, 53

Meat, essences, 168

fresh, 61

tinned, 72

Medical examination, 35, 47, 84, 244, 306-308

Mende, 114

Meta spirit, 61

Milk, Nestlé's, 71, 72, 168, 194, 215-217

Mint, Kendal, 60, 71

Minto, Lord, 26

Mirage, 227

Mistle-thrush, 325

Money-chests at Base camp, 139
INDEX

Monsoon, 29, 34, 158, 159, 163, 164, 181, 243, 282-284
Moraines, 133, 141, 143, 153
Morley, Lord, 26
Morshead, 29
Moss, 321
Mount Everest Committee, 41, 51
Mouse-hares, 325
Mustard, 323
Nangpa La, 78
Narbu Yisha, 158
Natu La, 89, 98-99, 285
Neame, Colonel P., 229
Nepal, 25, 78, 147, 150, 218
Nepali, 76
Nijõi Nori range, 263
Nima Dorje, 78, 135, 147, 148, 157
Nima Tendrup, 82, 148, 154
Nor-bu Ling-ka, 27
Normand, Dr. C. W. B., 76
North arête, 38, 136, 137
North Peak, 133, 136, 140, 142, 148, 150, 154, 159, 167, 183
North ridge, see Everest
Norton’s 1924 route, 195, 201, 215, 257
Nursang, 82, 110, 153, 180, 254, 260
Nyapala, the, 109-110
Oatmeal, 168
Obstacles to travel in Tibet, 25, 27
Odell, N. E., 35, 37, 39, 43, 44, 58, 187, 205-207, 212, 287, 296, 297
Odling, Mr. and Mrs., 77, 277
Ondi, 138, 139, 148, 156, 256, 313
Operations, 154
Ovaltine, 60, 71, 72, 168, 202
Oxygen, 58, 223, 297, 298
apparatus, 34, 35
containers, 58, 170, 314
equipment (1922), 34, 57; (1924), 35, 58; (1933), 58
experiments with, 31, 58
Oxygen—(Continued)
Finch, Greene and Odell, 34, 57-58
pneumonia and frost-bite, 308
problem, 57, 297
Oxygen-lack, 227, 308, 315, 318. See also Frost-bite
Pack-animals, 63
Packing, 63
Pakhyong, 92, 99
Pangda Tsang, 77, 89, 102, 103
Pang La, 123, 259, 280
Pangle, 123
Pasang, 178-180, 189, 309
Pasang Dorje, 99, 100
Pasang Kikuli, 180, 309
Passports, 89, 93-94, 101
Pauhunri, 105, 271
Pea-flour, 72, 168
Pedong, 92
Pemmican, 60, 71, 72, 168
Personnel, 93
interpreter, see Karma Paul
selection of climbers, 42, 306
selection of porters, 78
See also Gurkhas; Porters; Medical examination
Phari (Hog Hill), 35, 89, 93, 103-105, 265, 268
Pharyngitis, 148
Photography, 62, 146, 226
Phung Chu river, 123, 262
Physiological problem, 58, 292, 318
Pilfering, 120
Pinnell, L. G., 84
Pipitang, 100
Pitons, 57, 154, 157, 223
Plan of campaign, 63-70, 74-75, 95, 126, 127
Plants of Mount Everest, 321
of Rongbuk valley, 256
Pneumonia, 138
Police-ie, 110, 133, 181
Ponies and mules, 86, 99, 124
Poplars, 323
Poppies, blue, 323
Porters, Sherpa and Bhutia, 30, 34-37, 40, 55, 61, 67-71, 78-86, 90, 94, 95, 125, 133, 142-147, 149, 157, 159, 163, 164, 167, 182, 208, 249, 261, 277, 312
blessing of, 85, 132
clothing, 55
conduct, 86
food, 60, 72, 86, 135
INDEX

Porters—(Continued)
  high spirits, 262
  loads, 63, 79
  medical examination, 84, 309
  pay, 86
  recruitment, 78, 79
  See also Medical; Pilfering; Tigers
Post, 84, 110
Presents, 116, 132
Pressure cookers, 61
Primus stoves, 61, 134, 159, 165, 168, 246
Pumori, 140, 167, 183, 211
Puttees, 56
Qualifications of leader and men, xviii-
  xx
Rangli-Chu, 92
Rangpo, 92
Rapiu La, 143, 150, 163, 202, 247-250, 252
Rations, 59, 60, 71-72, 86, 135, 162, 168, 216, 217,
  specimen climber's, 71
  specimen porter's, 72
Ravens, 324
Receiving and transmitting station,
  wireless, 153
Reconnaissance, The, 30, 307
Reconnaissance Expedition (1921), 29
Respirators, 59, 111, 313
Richards, D. S., 62, 87, 126, 173, 302
Rinzing, 189
Rock-pica, 325
Rock-pigeons, 324
Rocky valley, 28
Rongbuk, 30, 36, 121, 124, 138-141
Rongbuk glacier, 30, 124, 133, 197, 200, 203, 211-213, 220, 258, 293
  east, 30-34, 52, 66, 121, 138, 140, 142, 146, 154, 167, 187, 211-213, 286, 293, 321
  main, 30, 133, 153
Rongbuk gorge, 124
  monastery, 30, 37, 130, 183, 252, 256; head lama of, 37, 131, 132
  valley, 121, 131-132, 242
Rong Chu river, 92
Rope, 57, 152, 157, 166, 183, 197, 202, 214, 218, 223, 236, 248
Rope-ladders, 57, 153, 157, 172, 180, 202, 246
Rose-finches, 324
Royal Air Force, 31, 47
Royal Geographical Society, xvii, 29, 41, 51, 70
Rungkung, 263
Russell, Captain A. A., 101, 104
Rutledge, Hugh, xvii
  chosen leader, 42
  on slow acclimatisation, 36, 217, 292, 296
Sanam Topgye, 78, 82
Sangars, 133, 135, 141, 157-158
Sanitary lines, 135
Sardais, 82, 153
Sardines, 71, 142, 168
Scott, J. M., 42
Scurvy, 60
Sebu La, 89, 93, 110, 267, 268, 285
Second in command, 103
Seconding of officers, 87
Sedongchen, 89
Sen, Dr. S. N., vii, 77, 250, 280, 283
Seracs, 140-143, 147, 168
Shabra Shubra, 105
Shankar-ri (1922), 117, 263
Second in command, 103
Shekar, 93, 121-123, 252
Dzong, 119-120, 135, 257, 259, 262, 280
Sherpa, 30, 52, 78, 79, 125, 131, 135, 165, 182. See also Porters
Shrikes, grey-backed, 324
Signals, 62, 171, 173
Signals, Royal Corps of, 87, 253
Sikkim, 84, 89, 93, 247, 275, 320, 325
  Maharajah of, 94, 277
  plants of, 320
Siniolchu, 108
Skylark, Tibetan, 325
Slabs, danger from snow, 299
  striated, 196-198, 204, 218, 250
Sleeping-bags, 55, 165, 169, 185, 216
Small-pox, 121
Smijth-Windham, W. R., 87-89, 101, 139, 158, 163, 172-173, 181, 191, 208, 236, 244, 251, 254, 261, 270, 315
Snow, 154-156, 230, 246, 285
consistency, 219-221
glacier, 154
North Col, 106, 162
north face, north ridge, 220, 250
See also Avalanche; Winde-slab
Snow-blindness, 54
Snow-firches, 324, 325
Sola Khombu, 66, 78, 131, 135, 147, 157, 158, 164, 242
Soups, Maggi, 168
Speed essential, 298
Speeds compared, 294
Spencer, Sydney, 43
Statesman, The, 84, 173
Step, first, 171, 195, 199, 205, 212
second, 195, 199, 205, 212
Stone, Lieut.-Colonel, 77, 87
Storms, 281. See also Wind
Sugar, 60, 71, 72
Summit, see Everest
Survey of India, 24, 26
Sweets, 168

Tang La, 105, 314
Tangu, 274
Tashidzom, 124-126, 132, 245, 250, 257-259, 322-324
Tatsang, 107, 322
Telegraphy, wireless, 244
Telephone, 62, 163, 172, 179, 189, 191, 235
wireless, 244
Telescope, marine, 191
Temperature, 142, 155
Tencheddar, 83, 242, 253, 256
Tengkye, 93, 115, 264
Tengkye Dzong, 114, 264-267
Tents, arctic, 53, 121, 148, 149, 153, 156, 158, 168, 179, 236
Tents—(Continued)
bell, 52, 102, 133, 148, 168
Burns, 53, 185, 214, 230, 253
double-skinned octagonal, 52
Marco Pallis, 53
Meade, 53, 120, 133, 138, 148, 153, 156, 159, 168-169, 184, 236
Mess, 53, 90, 105, 106, 109, 114, 119, 133, 242
Whymper, 104, 133, 141, 157
Tewand, 159
Thermometer, 59
Thermos flasks, 182, 194, 233-234
Third attempt, 235-255
abandoned, 237
Thompson, E. C., 87-89, 101, 134, 139, 173, 194, 243-244, 248, 268
Throat trouble, 108, 157, 311, 312
Tibet, 25, 42, 238
mammals, 325
obstacles to travel in, 25, 27
plants of, 321
Tibetan etiquette, insects and fauna, 267
monasteries, 121
officials, 109
"Tigers," 82, 191, 242, 249
Tista river, 90, 277
Tobacco, 311
Toffee, Truda's, 60
Toilet, daily nose and throat, 312
Tommy cookers, 61, 183, 194
Torch, electric, 62, 187
Training, 73, 311
Trangso-Chumbab, 119
Transmitter, wireless, 194
Transport, 76, 77, 86, 87, 147, 158, 254, 255
in Tibet, 304
See also Chonzay; Donkeys; Dzong-pens; Mules; Pangda Tsang; Police-ie; Porters; Yaks
Transport officer, 142, 148, 219
Tree-sparrows, 324
Trigonometrical survey of India, 1852, 24
Trisul, 316
Troughs, 143-146, 149, 238
Tsampa, 72, 158, 165
Tsering-me, 323
Tsongo, 98
Turtle-dove, 324
Twiss, Major-General W. L. O., 87
Ulcer, gastric, 156, 163
INDEX

Vaccination, 120
Vegetables, 61
Venesta boxes, 63
Very lights, 62


Willows, 324
Wilson, Dr. Claude, 50
Wind, 105-106, 134, 153, 162, 231
Windproof clothing, 55

Watt, Sergeant N., 87
Weather, 30, 279-291
(1921, 1922, 1924), 29-40
forecasting of, over the Everest region, 279, 326-330
general conclusions, 327-330
in June, 327
storms, 159, 173
See also Monsoon; Disturbances; Snow

Weather reports received, 303
Weir, Lieut.-Colonel J. L. R., 41
Wheeler, 29, 30
White Glass Fort, 28
Williamson, F., 84, 89, 93, 101, 251, 253

Yorkshire Ramblers Club, 57, 153
Young, G. Winthrop, 43
Younghusband, Sir F., xvii, 25, 40, 116

Zemu river and glacier, 275
Zilva, Dr., 59, 60, 309