Mountains are very Ornamental to the Earth and afford pleasant and delightful Prospects both to them that look downwards from them upon the subjacent Countries . . . and to those that look upwards and behold them from the plains and low Ground . . .

JOHN RAY (1691)
To
MY MOTHER
FOREWORD

By Geoffrey Winthrop Young

This book has an unusual origin. It was written during three and a half years of captivity. When the war broke out, Scott Russell, as we shall read, was with Eric Shipton's party, engaged in the further exploration of the Karakoram. He met no response to his offers of military service in India, or in England upon his return in that first frustrate year of the war; and he was sent out to advise on rubber planting in Malaya. In the middle of 1941 he insisted upon over-riding all further and local hindrances, and joined up. He was an officer in the Indian Army when the Japanese advanced. As a prisoner of war in Singapore, his scientific knowledge of plants qualified him to be placed in charge of gardens in which large numbers of men were eventually employed, producing food to supplement their meagre rations.

He was secured by this occupation against the deadliest enemy of the prisoner, physical inactivity; but he determined from the first to ensure a like exercise for his mind, by recalling in detail the memories farthest removed from his confined condition, those of his mountain explorations. All notes and records had been destroyed in the siege; so he had to work the harder from memory. He informed the Japanese officials that gardening called for much list-making, and therefore much paper, and in this way he collected enough to keep two copies of this book going, in case one should be confiscated.

Mountaineers go to the hills not only for adventure, but to restore their sense of proportion, since heights have power to reduce human troubles to their proper scale. In age or sickness, also, even the memories of mountain days may make a world for us of happy escape. But this is the first case I have known
when a young man has set himself deliberately to call up such memories, as a means of keeping his sanity and of excluding for long days and even years the consciousness of oppression and bodily discomfort.

And what memories they were!—notably those of the New Zealand years. If any one of us had sat down as a boy to imagine the ideal fairyland to which he wished to be transported, he could never have pictured anything more satisfying than that first coming of a small boy into an unknown and lovely world, of hills and rivers and forest. With the spirit of adventure growing in him, with the passion for nature and for hills developing as he began to look round his new home, he was to discover for himself the incredible fact that whole tracts of those rivers and mountains and of the snowy horizon only just beyond the garden fence, were actually unexplored country, untrodden ranges, ready to unroll for him first their wonder and beauty and excitement at each very-next-holiday wandering.

Of course we all have to grow up. But this boy determined that his growing-up was to be so guided as to give him much more adventure of the same kind. So he studied plants seriously, and made a success of that; and meanwhile he went on training himself as an explorer and climber. It is not entirely clear—perhaps not even to himself?—from the stories telling of his return to England and of his climbing there and in the Alps, which of his chosen lines of education, the scientific or the exploratory, he was really pursuing. But the two came usefully together in an arctic expedition to Jan Mayen island, with its incidental first ascent of the eastern Beerenberg summit.

The harmonious blending was repeated, and intensified, when he was invited to join Shipton’s Karakoram expedition, where he could proceed to study Himalayan plant behaviour under both winter and summer conditions and to revel in great mountain expeditions. The dynamic and full-breathed fitness acquired in such a boyhood, the steady optimism, and the keen understanding and zest for living and for life in all natural forms, went with him there: they kept him healthful company through the depressing years of confinement while he was
writing this book; and they make him good company for us when we read it now.

With that, for the time being, his adventure breaks off. We are left with no little curiosity as to what will come next. . . .

GEORGE WINTHROP YOUNG

Christmas 1945–6
ACKNOWLEDGEMENT

Every climber of mountains owes much to his companions, much also to those who went before him, for he follows their footsteps, metaphorically if not actually, even if he reaches hitherto unclimbed summits. My own indebtedness is very great both to those with whom I have shared the experience of mountaineering and to those elder figures who by their writings and council—and, in one case especially, by friendship also—have increased my understanding and appreciation of the hills. The recollection of these associations was the keenest pleasure of the years when this book was written, but it is impracticable to make more than a general acknowledgement for this service. I wish, however, to thank those numerous friends whose help in many directions has made possible the publication of this book.

Of my companions in Singapore, Leslie Orchard and Major Bruce Hunt, both of the Australian Imperial Force, gave me invaluable assistance; the former copied the manuscript, section by section as I wrote it, so that one copy could be buried for safety. The latter provided, during many long evenings, the stimulation and encouragement necessary for the completion of the work.

More recently Messrs. A. J. Scott, E. E. Shipton and P. S. Wellington have helped me by verifying the details of the journeys I made in their company—a task I could not myself do owing to the loss of my diaries. To them and also to Messrs. G. C. N. Johnson, E. E. Miller, and P. G. Mott I am indebted for much assistance in obtaining photographs to supplement the few of my own which survived the war. The High Commissioner for New Zealand and the Secretary of the Royal Geographical Society have generously provided many illustrations and also the data necessary for the preparation of maps.

For permission to reproduce photographs I am grateful to
Miss Ella Campbell, for left-hand photograph facing page 37; Professor G. I. Finch, F.R.S., for photograph facing page 93; Mr. G. C. N. Johnson, for photograph facing page 49; Mr. J. N. Jennings, for photographs facing pages 115, 126, 127; Mr. M. G. McInnes, for photographs facing page 28; Mr. P. G. Mott, for photographs facing pages 171, 185, 194, 204, 213, 239; High Commissioner for New Zealand, for photographs facing pages 6, 7, 36, 61, 71, 80, 81; Mr. C. W. F. Noyce, for photograph facing page 92; Dr. C. G. Riley, for lower photograph facing page 29; Mr. A. J. Scott, for photographs facing pages 29, 70; Mr. E. E. Shipton, for photographs facing pages 170, 176, 177, 184, 205; Mr. George Simpson, for right-hand photograph facing page 37; Mr. W. H. Ward, for photographs facing pages 114, 127, 134; Royal Mail Lines, Ltd., for photographs facing page 141.

I wish also to express my gratitude to Miss Anne Finch for preparing the index, and to Mr. Malcolm Conway for assisting in the correction of the proofs.

R. S. R.

March 1946
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Part I

THE BEGINNING

We are the Pilgrims, master; we shall go
Always a little further: it may be
Beyond that last blue mountain barred with snow
Across that angry or that glimmering sea.

JAMES ELROY FLECKER
New Zealand
The South Island

The area indicated is shown on an enlarged scale at the beginning of Part II
The Beginning

One of my earliest memories is of a window opening on a narrow valley where cattle grazed; beyond was a hill with tumbled rocks upon it and bracken and moving white dots which were sheep. In the foreground a railway line ran through the pastures and closer still a motor car stood at a gate. That is all I can remember. It is a picture without context. I do not even know where that window was, though it must have been near Inverness—probably in a farm-house where we spent a holiday. I cannot have been more than three and a half at the time.

I do not know what impressed that picture on my memory; perhaps the sheep browsing upon the hill, perhaps I had been told that a train would soon pass. Or was I hoping to drive in the motor car—a rare event in 1916? Twenty-eight years ago the hill may have been nothing more than the background of a moving train but it has become to me a very special emblem. It is the first hill that I can recollect.

My next memory of hills is also framed in a window, the window of a railway train in the Scottish Highlands. I can hear my mother saying 'Look at the snow up there!' That was in the summer of 1919 when we left Inverness. I was not very impressed by the Grampians; they make a dim picture compared with a fire which broke out in our Edinburgh hotel that night and a drunken sailor who tried to enter our carriage next day. They survive only as part of the exciting process of moving house.

The next two years hold many memories; sightseeing in London where the traffic frightened me, my first school, holidays on the Devon coast, the River Pageant when the King and Queen passed before us in a white and gold barge. Mountains entered once—and then but fleetingly—into these years; at the age of eight I was deemed too small to join in a walking trip upon the Quantocks. For two whole hours I was unconsolable, but a new mechanical toy so quickly soothed
me that it must have been 'being left out' rather than the Quantocks that I really regretted.

A few months later came the greatest event of my childhood. My father, already in his sixtieth year, retired from the Civil Service and we moved—my parents, my brother three years older than I, and myself—to New Zealand. It seemed that one 'I' ceased to be at Southampton docks on a grey November morning and that six weeks later a new 'I' was born in a land of space and sunshine, wooden houses, tin roofs and rolling hills.

Quickly I came to take the change for granted, caring little what made the difference between the two 'I's'. Years later I realized that my interest in the natural countryside was then born. Hitherto hills and trees and fields had been the background of my playing; now I found in them something more, something which attracted me intensely for itself, though I neither understood nor sought to understand its nature. Perhaps had I remained in England the same interests would have developed, though more slowly. There would certainly have been less opportunity to indulge them, and I owe much to that decision of my parents which took me overseas while yet a child.

Our new home was in Nelson, a white bungalow behind which were hills, and it was here that my consciousness of myself developed. My life was moulded by my parents, the surrounding countryside and my day-school. The home influence was greatest, that of my school the least strong. It was my good fortune to be born of contrasting yet perfectly harmonized parents; my mother from the west of England, sensitive to beauty, outstandingly musical and with a rare capacity for generous friendship; my father an Ulsterman rather sternly practical with a clarity of thought and expression which I came to realize later would have led him far in science had that been his chosen sphere. Of both I seem to have been a mixture on a lower key with, as my friends have frequently told me, an admixture of loquacity inherited from neither. My brother was less practical and less vocal; he possessed scholastic aptitude others frequently alluded to in disparagement.
of myself. Despite the difference of our ages we were a very close, if argumentative, partnership. From an early age we both felt a strong urge towards exploration. When taken to new surroundings we immediately set about finding where each street or roadway led. Having discovered this we were satisfied and hurried after something other that was new. Sometimes our attitude yielded little which now seems of profit. Did we for instance gain anything by spending all our pocket money in the first few days of a holiday, in a town well provided with trams, on travelling to every terminus? A country setting produced better results.

During our early years in Nelson an added bond between us was the fact that we were 'Homeys'. The New Zealand schoolboy like his counterpart in every other part of the world is quick to note his companions' oddities of speech. It was indisputable that we spoke differently from our fellows, and though this raised no hostile barriers it increased our reliance one on the other, and it encouraged us to spend our holidays in the surrounding hills where no such nice distinctions existed. The Homeys phase soon passed—New Zealand absorbed us so completely that the wrench of my eventual parting from it still lingers—but my affection for the Nelson hills, which was first engendered by the reactions of childhood, has endured.

From the back verandah of our house in Nelson we could see the 'Grampians', named in the early days of the colony by some nostalgic Scot. These were the first hills that we came to know, though soon we found wider ranges beyond them. None of the summits was more than three thousand feet in height but they gave a perfect introduction to the hills, and for six boyhood years they were our playground.

Some of the slopes were covered with grass, sparsely dotted with brushwood, others were gay with golden gorse and broom, plants introduced from the old lands which quickly ran to riot in the new. Further off were 'bush'-clad ranges of beech and podocarp forest, rich in ferns, cool and tranquil on the hottest day.

It was here that I first heard the call of the bell bird, the most liquid and perfect of all bird-calls, and learned the sweetness of
the water in mountain springs. On the open slopes I learned sterner lessons; to walk uphill with slow rhythm, to place my heels firmly on the ground at every pace, to walk without drinking water in the heat of the day.

My brother and I kept company on these adventures, but others joined us and we often made a party of four. For years our expeditions were no more than day excursions from dawn to sunset, but there were routes in plenty to give variety to our holidays. In memory most of the days are merged together, chainlike, a composite picture of boyish enjoyment in rain and sun. But a few stand in clear detail against this background.

Earliest and most vivid comes the memory of my first expedition, a few weeks after we had arrived from England. For the first time I walked eighteen miles, which then seemed a great achievement, under the guidance of Mr. F. G. Gibbs, our schoolmaster, who earned my lasting gratitude by that act. It was a day of glorious discovery. Even the last few footsore miles into the dusk could not dim my delight at hill and forest and running water which now entered into my life. Years passed before the enthusiasm, thus kindled, was translated into conscious thought, but from then onwards our great days were those when we escaped to the hills.

An acquisitive urge soon made itself manifest. Our tramps yielded large harvests of stones and specimens of leaves and flowers. Once we had found their names our interest ended and our treasures became litter; but this I suppose may be regarded as the first sign of scientific curiosity.

If the development of my enthusiasm had followed the course described by many mountaineers I should at this time have discovered Whymper's *Scrambles* or some other mountaineering classic in the school library, and dreamed of the Alps until some fairy godmother enabled me to bring my dreams to earth. But no miracle happened, and my school days were nearly over before I discovered the literature of the hills or developed any conscious ambition to climb them.

One of the main forces attracting me in those early years was a negative one. I played games badly, and a pale-faced, rather weedy schoolboy felt more at home among hills than on
THE BEGINNING

the playing-field. Only two events directed my thoughts in any way towards greater mountains—a lecture by a master at school, and meeting Miss Lorimer, a fine and very modest mountaineer who played a larger part in the development of New Zealand climbing than is often realized today. I sat wide-mouthed on the floor of my mother's drawing-room, as she described an early ascent of the Hooker face of Mt. Cook.

When I was fifteen, we spent a summer holiday at Queenstown beside Lake Wakatipu, the largest of the cold lakes of New Zealand. It was here that the next important stage of my approach to the hills took place. Twice in the years that followed I returned to Queenstown, and my first impression of it, one of the loveliest places I have ever seen, did not change. It lies snugly at a corner of the lake, backed by hills which though they did not reach the levels of perpetual snow were wilder and more grand than any we had previously seen; but they were only a fleeting resting place for our affections. Lake Wakatipu is one of the main highways to the Otago Alps, and to these greater heights our imaginations though not yet our footsteps turned. Queenstown was a gateway opening on adventure, and a haven which could shelter our return.

My brother and I were still free of that repugnance for large tourist throngs which later years developed, and our first enthusiasm was kindled on a crowded excursion steamer. Memory holds no record of those in whose company we went, but the hills remain. An hour after leaving Queenstown, the steamer turned abruptly northwards and into the great furrow of the upper lake. Before us were glaciers and snow-clad peaks. It was my first vision of mountains clad in perpetual snow; but ambition did not yet carry us to them, and we turned aside at Elfin bay to walk through the beech forest above the Greenstone river.

From that walk it is the forest not the river which I remember most clearly. The small-leaved beech trees, feathery light yet casting sombre shade by virtue of their dark foliage; the ferns and mosses richly profuse upon the ground; the pungent freshness of the forest scents. Equally with the peaks, forests are the glory of the New Zealand ranges. With climate and
soil they vary from these open beech woods to the luxuriant rain-forests we later came to know. It seems strange that the unimpressive name of 'bush' is commonly applied to this rich harmony of trees and shrubs and ferns.

The New Zealand forests are unique; many of the plants occur in no other country. New Zealand was isolated from other lands in the remote geological past and the slow processes of evolution have developed forms which have had no opportunity of spreading. Among the most delightful features of the 'bush' is the absence of poisonous and dangerous animals. There are neither snakes nor carnivorous mammals. Mosquitoes and sandflies are numerous but they carry no diseases and the one poisonous insect is a spider found only near the coast, and then not frequently.

Only those who have known the snakes, leeches and malarial mosquitoes of the tropics can appreciate fully the freedom of the New Zealand bush. In my youth I took it for granted; we walked, sat or slept wherever whim dictated. But when I am next in New Zealand, the friendly safety of the bush will be one of its real delights.

Turning homeward from our excursion to the Greenstone valley we came up with a party that had been tramping in the valleys beyond—bearded men, soiled by their journey and laden with enormous packs. I was deeply impressed, and wondered vaguely if some day I might not make a similar journey. This dream travelled with me as we turned homeward over the still waters of the lake, leaving the mountains half veiled in the opalescent haze of evening.

Every day for the remainder of our holiday we walked in one direction or another from Queenstown, and I remember keeping a careful log of the distances walked and the places reached. Our tramps varied from ten or twelve to forty miles a day. Sometimes we went along the margin of the lake, sometimes over the bare, folded hills behind, which had once known the feverish prosperity of a gold rush. Prosperity and turmoil alike were now past and the few surviving miners, old and tired men, looked with surprised kindness on the two boys who invaded their solitude. Once or twice we were invited
into the little shacks in which they lived, and in an atmosphere heavy with smoke were shown the few grains of gold which represented the toil of weeks in the unyielding ground. I enjoyed meeting these men, who came from a world entirely foreign to that in which I had been brought up.

Our holiday ended with a night ascent of Ben Lomond, 4,500 feet high, to see the sunrise. A footpath, familiar to many tourists, led to the summit, but this detracted nothing from the excitement of our first night march. The full secrets of the mountains at dawn were, however, very properly concealed from novices who had not served a sufficient apprenticeship, and we descended through a grey dawn of swirling mist in which even my fertile imagination failed to discern the outlines of distant peaks.

And so I returned to school, feeling that mountains were to play a large part in my life, but with little idea how this was to come about, for I had then no climbing friends. But at that age one lived for the present rather than the future and during the winter holidays I roamed contentedly among the tussock-clad hills behind Dunedin, where our home now was.

My other great enthusiasm at this time was chemistry and when my parents moved to Dunedin my main interest in our new home was that it should have suitable accommodation for my ‘laboratory’. This was forthcoming in a shed designed as a domestic laundry and amply supplied with water but too antiquated and inconvenient for modern purposes. I was given sole possession. It was several yards from the house, and my odorous synthesis offended no one but myself. Even more exciting than using the laboratory was fitting it out, and I can recollect strange and complicated apparatus variously improvised, for the laboratory was badly financed. My most ambitious project, to make iodine on a large scale from kelp—failed—but the preparation of chloroform and bromine were two proud achievements, though the latter was somewhat marred by escaping fumes which drove me into the garden.

Hill-walking and chemistry seem a strange combination, but at the time I found the alternation between that grimy and odourful shed and the hills to be natural enough, and the future
was to link these two interests closely together. Within a
couple of years my laboratory was forgotten for the greater
dignity of a university science school. Chemistry there led me
to botany through which came an added approach to the natural
world. That, however, belongs to a later part of my story.

The next summer—my last as a schoolboy—we spent on
Stewart Island, which lies to the south of the South Island.
For all I know the island may now be a fashionable holiday
resort with cinemas, tea-gardens and a background of wireless
blare, but in 1929 it was unspoiled and charming. There were
a few guest houses and many summer cottages at Oban, where
the ferry steamer called, but no hotels. One lorry was the only
motor transport.

The entire island is hilly, and the vegetation which covers it
is so dense that many parts are rarely visited although its length
is barely sixty miles. The coast is serrated by many bays and
inlets, some large enough to hold a battle fleet, many so small
that a trawler could scarcely find anchorage. These landlocked
waters and also the surrounding sea are dotted with many
hundreds of islands varying from a dozen yards to a few miles
in length.

In the sheltered bays luxuriant forest of great beauty grows
down almost to the level of high tide, but the outer islands,
which are exposed to the full fury of winter gales, are barren
or sparsely dotted with small shrubs. Sea birds, in great
numbers, live upon the islands—gulls and terns, mollymawks,
(the lesser albatross), penguins and mutton birds. These latter,
a species of puffin, are regarded as a special delicacy by the
Maoris. Their flesh contains much fat and for shipment to the
mainland they are boiled and then packed in bags made from
the leaves of the New Zealand flax.

Maoris form a larger part of the population in Stewart
Island than in most other parts of New Zealand. Timber-
hauling, fishing and bird-catching are their occupations, and
parts of the islands are reserved exclusively for them. Unfor-
tunately they have discarded their traditional dress and many
of their customs, but they are still a fine people though few in
number. They play their part equally with the white com-
munity in the political life of the country, in its cultural
development and in its sport.

Some whim of the ocean currents gives Stewart Island a
milder climate than would be expected from its latitude and
the weather in summer is usually warm and sunny, though
occasional fierce gales come from the south, across the two
thousand miles of open water which stretch to Antarctica.

My brother and I spent the early part of our holiday explor-
ing the neighbourhood of Oban. Then for a week we camped
at the head of Paterson’s Inlet which extends nearly fifteen
miles inland, nearly cutting the island in two. A casual
acquaintance joined us and in high spirits we set out, strangely
and copiously equipped. It seemed a great undertaking, for
our excursions had never before exceeded a single day.

A small launch carried us up the blue waters of the inlet
which mirrored the tree-clad hills and islands on either hand,
itluntil we reached a slow and brackish river named Rakeahua.
Dense scrub of manuka or tea-tree grew on either bank and
farther off were bush-clad slopes. Coming at length to a
clearing, we disembarked and the launch turned homewards,
leaving us to camp in a hut long untenanted except by rats—
an unfriendly place, smoke-blackened and without windows.

My most vivid impression of the Rakeahua is of our first
night there; of the silence in the clearing when night darkened
the sky; of the feeling of loneliness which a comfortable fire
did not banish; of my terror when a rat ran across my face and
wakened me; of the blackness and stillness in the hut as I lay
listening and hearing nothing except the steady breathing of my
brother and the occasional sharp call of a bird which I like to
think was a kiwi.

We spent four days in the Rakeahua valley. Night lost its
terrors and I felt more like the hardened ‘bush-whacker’ I had
tried all the time to appear. Once towards sunset I ventured
out into the bush with an old service rifle, and settled down
near a pool where deer had drunk, hoping for a shot. I waited
while the shadows darkened. There was not a quiver in the
undergrowth and I was nearly turning homewards when I
heard a swift rustling four or five yards beyond the pool. It
was almost too dark to see but something seemed to move and I fired. The shot echoed among the hills and the recoil nearly knocked me over, for in my haste I had held the butt a few inches away from my shoulder. Scrambling round the pool I found a sticky bunch of flesh and feathers—a weka or ‘wood hen’, one of the most harmless and carefully protected of birds. I hurried rather shamefacedly with my bag through the half-light to the hut. Next evening we had an excellent stew.

The weka is one of the flightless birds for which New Zealand is noted. Others are the giant moa which became extinct perhaps not more than a century ago, and the kiwi. The evolution of these birds is associated with the absence of flesh eating animals or reptiles—there was no danger from which the birds had need to fly and by disuse their powers of flight were lost. The advent of man and his animals has already exterminated the moa and made the kiwi rare. Though the weka is still relatively common his days also are probably numbered, for it is doubtful whether protective legislation can now save him.

After we had climbed two hills which overlook the Rakeahua we set out in a small boat for another brackish river named the ‘Freshwater’. One night, half-way on our journey, we spent in a hut scarcely a dozen feet above high tide level on a bush-clad promontory facing down Paterson’s Inlet. We came to the hut late on a still afternoon. In imagination I can still see every pebble on that beach, and the trees bending gracefully over our boat, and the long land-locked inlet which stretched before us towards the sea. It was a double picture. The water was so still that it reflected the hills and trees with perfect clearness and when night approached the flame of sunset lived more vividly upon the water than in the sky. Soon the moon rose, giving the scene an exquisite beauty which I strove long and un成功fully to describe in verse.

The remainder of our trip was less poetic. A southerly gale sprang up and in one passage our boat was nearly swamped; then followed our first night under sodden blankets. Three days later when we again slept between sheets at Oban, I had a feeling of achievement for which there now seems no whit of justification.
One afternoon, a few weeks after our visit to Stewart Island, my eyes strayed from the books I was studying in the library of the University of Otago to a small booklet which lay by chance upon the table. Its title, Guide Book to the Tourist Routes of the Great Southern Lakes and Fiords of Western Otago, seemed much more interesting than the volumes on applied mathematics which lay open before me. There was a large map on which the word ‘unexplored’ appeared several times; there were descriptions of routes; most interesting of all there was a chapter on how to travel among mountains.

I owe much to George Moir, who wrote that booklet. It was the first mountain guide-book which I owned, the first and perhaps the best. It aroused in me an interest in the geography of the New Zealand hinterland; from it I learned more than from all the geography lessons of my school days. The great idea developed gradually: there was no reason why we ourselves should not travel in the ranges. Perhaps some day we might go where no one had been before. I remembered the tramping party which had so impressed me on lake Wakatipu eighteen months before. Now that I had read Moir's guide-book I held them in less awe. We could do the same thing ourselves; and we would. Soon my brother and I began planning our next summer holiday.

At first we intended to travel in the valleys beyond lake Wakatipu, but then we read a book by Maud Moreland describing the Matukituki valley. It is years since I have seen that book. In recollection it seems a rather sentimental travel story; but it led us to the Matukituki and for that I am grateful.

We persuaded a friend to join us. He had little of our enthusiasm, and I am afraid we cured him permanently of all desire to travel among hills. We approached every undertaking, even the simplest, with a gravity which might have won approval from the mountain sages but, most unreason-
ably, we expected him to do the same. However, it was our food—the appalling messes of boiled rice and bully beef which appeared twice daily—that deterred him most. Poor chap. He had much to bear and complained little.

The Matukituki river flows into lake Wanaka, one of the many lakes which fill the beds of ancient glaciers on the south-eastern flank of the Southern Alps, and we spent the first night of our holiday at Pembroke (now renamed Wanaka), a small township at its foot. Pembroke itself was without attraction. Galvanized iron was the predominating building material, as in most up-country townships, but there was a barren loveliness in its surroundings—the blue waters of the lake receding to a hazy distance of hills and, nearer, brown grass-clad slopes sculptured by ancient glaciers into smooth characterless forms.

From Pembroke a motor road followed the margin of the lake for a dozen miles to the mouth of the Matukituki river and in fine weather it was possible to drive a further ten miles up the valley to Niger hut. There our stores had been sent some days previously, but for the sake of economy we walked.

In mid-afternoon, under a glowering sky we left the lake and entered the wide grassy flats of the valley. On either side crags swept upwards into the mist. It was a barren and forbidding scene and our small tent, home-made and as yet not slept in, seemed inadequate against the storm which evening promised. A herd of semi-wild cattle rushed towards us across the unfenced pastures of the valley. Perhaps fifty paces away they halted, watching us silently and with lowered heads. Then they turned and fled away bellowing, but they can have been little more frightened than we were. The cliffs took up their call, echoing it back and again back until the air was filled with sound like a solemn diapason on a great organ.

Towards sunset we reached a homestead, the only one so far as I can remember below Niger, and with the warm hospitality of the back-blocks the manager offered us shelter for the night. His wife would not hear of our preparing the food we had brought and fed us on great chunks of bread from her oven, butter from her dairy and beef. Soon we were seated beside the kitchen fire drowsily contented, while the rain
lashed the windows and lightning stabbed the surrounding hills.

'Time for the news,' said our host, switching on the wireless set which was his newest and proudest possession. Faintly against a background of static we heard a voice—'Will amateur transmitters please close down? They are interfering with communication to the stricken areas.' What did this mean? The request was repeated. Then the storm drew nearer, and the loudspeaker spluttered and crackled so much that it was necessary to switch off. A few minutes later the centre of the storm had passed from the valley and we could hear a voice reading a long list of names. Then came the bald statement, 'The names of other victims of the earthquake will be announced later'. Gradually we pieced together the story of the Napier earthquake, the greatest such disaster in the history of New Zealand.

Next morning the storm clouds were gone. Every fold of the hillsides flowed with water and a clean dusting of new snow lay upon the peaks. The valley throbbed with sunshine and the after-scents of rain. The forbidding scene of yesterday seemed now friendly and welcoming, and as we walked onwards to Niger hut the Napier disaster sank to a secondary place in our minds.

The Matukituki valley was once the bed of a great glacier, a tributary of the still greater glacier which filled the basin where Lake Wanaka now lies. Like most valleys of glacier origin it is U-shaped in section, steep-sided with a wide, almost flat floor. Few outjutting ridges disturb this symmetry and it is possible with little difficulty to travel along the wide grassy flats beside the river. Only where the meandering whim of the stream had made its course close to the hillsides is the traveller forced on to the steeper slopes.

In the lower valley there is little vegetation save tussock grass and stunted shrubs, but further up beech forests grow upon the mountainsides to the altitude of four thousand feet, and here and there encroach downwards upon the valley floor. From the tree-line, slopes clad in shrubs or alpine herbs lead upwards, becoming sparser with altitude, to the level of six
thousand feet. There vegetation ends and the ground, except for steep rocks, is covered perpetually in snow.

It was a spacious scene. Before us stretched the wide park-like valley floor, with the river winding through it and cattle grazing on the rich grass, beneath the sombre forested slopes which were broken by precipices, and threaded by the gleam of falling water. Above, was the glittering ice of glaciers and snowfields, and the half hidden summits of the peaks.

Always, while we travelled in the valley, the voices of the waters were with us—the ripple of small streams among pebbles, the baritone of the waterfalls or the pulsating beat of the greater waters, felt rather than heard by stunned ears. Then, too, there were the muted waters, the slender shafts which plunged from the high snowfields towards the valley which they never reached, for the wind caught them and bore them in rainbow-edged mists across the mountainside.

One afternoon as we passed from one branch of the valley to another we came to a homestead, the only one in the upper valley. We had planned to camp some miles beyond, but Jack Aspinall, the manager, met us as we approached and told us that no travellers passed by his home. His wife greeted us with an invitation to make a bridge four in the evening and thus we came to know one of the most courageous and charming of back-block families.

Jack Aspinall, a veteran of the First World War, had met a city-bred girl while on leave in England. In 1920 she joined him at the remote homestead in the Matukituki. Their nearest neighbours lived a dozen miles away but often, especially in spring when the snow was melting, they were completely isolated by the flooded waters of the river. There together they made their life with a few cherished possessions and wedding gifts as the bride’s only reminder of the life she had left. Twice a year they visited Pembroke and perhaps once a month they saw their neighbours if the river was low. More recently they had been able to spend a week each year in Dunedin.

One night in their first winter, when snow lay deeply on the ground, their wooden house took fire and they were able
THE BEGINNING

to save little but themselves from the flaming ruins. For the next year they lived in a one-roomed outhouse and there Mrs. Aspinall contrived to bring up her first child. In time a new homestead was built and year by year, after the cattle sales, they added a few new comforts. Through all Mrs. Aspinall had retained her joy of living and her sense of fun. She enjoyed a game of bridge immensely and he would have been a callous as well as a foolish traveller who would not modify his plans to spend a night at Aspiring Station.

When we had helped to wash up the tea dishes and the children were safely asleep, we sat down to bridge and played until long after midnight. It was hard to realize that our animated hostess, who for the moment seemed to have no interest other than in cards, did all the domestic work of her trim house, cultivated its garden of English flowers, churned its milk and brought up her two children so well that they were not only better-mannered but as well-lettered as the average town-bred children. There was one quaint thing about them—they spoke with the accent of their mother's native Liverpool. Here in the back-blocks of New Zealand, twelve thousand miles from England, it made strange hearing.

When the game was over Mrs. Aspinall remarked, not with regret but rather as if it was a normal state of things, 'I expect we will have more bridge at Easter (eleven weeks away) when the ——s are in the valley'. Next morning when we packed our rucksacks she was already stoking the washing boiler for her weekly laundry, and her husband was out with his cattle. I did not ask Mrs. Aspinall if she regretted the easier life and artificial entertainments which she had left. But I know how she would have answered.

For three weeks we remained in the Matukituki valley, spending our time in the forests beside the river, or on the grassland below the snow. We learned much of camping and load-carrying, of bushcraft and fording rivers. This knowledge is the foundation of climbing in the remoter parts of the New Zealand Alps and later it stood us in good stead.

The climax of our holiday was an ascent of a very easy pass, the Shotover saddle. There for the first time I stood on perpetual
snow, and for the first time I saw a panorama of alpine peaks from an altitude sufficient to show their full grandeur. As I sat there in the sunlight gazing at the summits of the Otago ranges I realized that the valleys would no longer satisfy me. Something greater had entered my horizon. A conscious desire to climb the great mountains had been born within me. They beckoned in a friendly, almost personal, manner. But there was much to learn before I could know them as intimately as I now knew the rivers and valleys. Where was I to learn this technique and from whom?

A few months later the New Zealand Alpine Club showed me the way. The club had recently resumed active life after a long dormancy, and its members were keenly alive to the dangers attendant upon the increasing numbers of inexperienced climbers then visiting the mountains. Few facilities for guided climbing existed and the club took upon itself the responsibility of introducing novices to the hills. For this purpose a training camp was to be held during the following summer. Hearing of this I hastened to call on J. A. Sim, the Otago secretary of the club. When I came to his office—he is a solicitor by profession—he was engaged, and for some time I waited in an outer office. For me much depended on the interview but, as I looked at the blank faces of Sim’s waiting clients, I reflected that there was not the least reason why he should be at all interested in the aspiration of a student whose name he did not know. My self-confidence had quite gone when at length I was admitted to his room.

I do not remember how I introduced myself but I do know that, at my first mention of the word ‘mountaineering’, the eyes of a short, rather thick-set man, twenty years my senior, lit up with friendly interest.

Ten minutes later I left him, too delighted to give expression to my pleasure. ‘Jock’, to use the name by which all New Zealand climbers know him, had offered to nominate me as a subscriber to the club,—membership being reserved for experienced climbers—and to include me in his party for the club’s climbing camp in the Rees valley during the Christmas holidays. That was only ten weeks away.
Part II

THE SOUTHERN ALPS
OF NEW ZEALAND

Me the snows
That face the first o' the morning, and cold hills
Full of the land-wind and sea-travelling storms . . .
And streams that murmur of the mother snow—
Me these allure, and know me.

A. C. SWINBURNE
NEVER had time passed more slowly than in the weeks before the Rees valley camp of the New Zealand Alpine Club. I was eighteen, young for my age, except in the unimportant things one learns in books, and filled with an enthusiasm, boundless but inarticulate, for an experience I could not yet visualize. Always my thoughts strayed onwards to the hills. At last the day came to pack my rucksack and travel by rail and steamer to the head of lake Wakatipu. Some of our fellow passengers looked admiringly at our ice-axes—mine a borrowed one—our ropes, and our heavily nailed boots. Climbers were rare enough to excite the curious and someone asked how we used ‘those picks’ in finding gold.

It was late afternoon when we reached our base camp, a shepherd’s hut in the Rees valley twenty-five miles above lake Wakatipu. We were an advance party and our immediate task was to make depots of food in preparation for our climbing. Next morning we carried our first loads up the valley.

In almost every part of the New Zealand Alps load-carrying is inseparable from mountaineering. Guides and porters are available in only a few localities. Elsewhere the climber must be his own beast of burden, and his hardest toil is often accomplished before he sets foot upon his peak. But even load-carrying was not irksome in my first season. While we toiled up the valley the peaks came now and again into view, and I taxed my companion, a veteran of one season, with innumerable questions.

Thus began my novitiate as a mountaineer and for the next four years I continued to learn the craft of mountaineering in the Southern Alps. As the story of these years would by itself give a very incomplete picture of New Zealand climbing, I must give a short general description of the ranges and of the scope for mountaineering which they then offered.

The main divide of the Southern Alps lies close to the west coast of the South Island. For over two hundred miles—from
MOUNTAIN PROSPECT

Arthur’s pass in the north to Haast pass in the south—it forms an unbroken chain of ice-clad mountains. South of the Haast pass are the tangled ranges of Otago which spread out like the fingers of a giant’s hand to Milford Sound in the west and lakes Wakatipu and Wanaka in the south. The greatest peaks are grouped in a comparatively small area approximately midway down the range. Mt. Cook, 12,349 feet, is the highest peak and near it are more than a dozen other summits exceeding ten thousand feet. Elsewhere the range seldom reaches the altitude of nine thousand feet. The New Zealand peaks are thus between three and four thousand feet lower than those of Switzerland, and it might be imagined that the scope they offer to the mountaineer is correspondingly less; but this is not so. The New Zealand mountains are more heavily glaciated than any in Europe, and they provide ice-climbing at least as fine. Yet they lie considerably nearer to the Equator (their latitude corresponds to that of the Pyrenees) and the lowland climate is milder than that of England. The surprising whiteness of the range is due to very heavy precipitation of rain and snow.

In all accounts of New Zealand climbing storms obtrude themselves with almost monotonous frequency. They are the climber’s principal annoyance; but they provide also the things he enjoys most—not only the magnificent opportunity for mountaineering but also the glory of the forests through which he passes in the valleys. I am not alone in thinking that the inconvenience of storm-bound days is amply repaid. But it is inevitable that a description of the Southern Alps should begin with its weather. The prevailing winds are north-westerly. They are warm and saturated with moisture from their long passage over the wide ocean which stretches to the north and west of New Zealand. Across their route lies the cold barrier of the Southern Alps; it checks their progress; the icefields chill them, and the water vapour with which they are charged turns first into cloud, then into rain and snow. Few detailed measurements of snowfall have been made at high altitudes, but the magnitude of the north-west storms can be gauged from the rainfall on the western flank of the range which may exceed 300 inches a year. Storms sometimes continue unabated for a week.
THE SOUTHERN ALPS OF NEW ZEALAND

or more, though two to four days is a more usual duration; they occur at all seasons. It has been said that high climbing is usually possible on two or at the most three days per week.

The first nor'-wester that I saw developing upon the crest of the range is among my clearest memories. Our altitude was perhaps 7,500 feet; through the passes of the main range, which lay a couple of miles to the east, we could look out over the coastal forests to the Tasman Sea. The sun shone brilliantly but the wind had set steadily from the north-west, and for the past six hours long cigar-shaped clouds, locally called 'hogbacks', had lain on the horizon. The more experienced members of our party had known by this sign that a storm was imminent, but its final onset was sudden. Out of the clear air frail scarfs of cloud formed on the peaks. At first the wind tore them, and as they parted from the coldness of the range they faded in the sun's warmth. No sooner had they vanished than new and heavier ones replaced them; these the wind was powerless to disperse. Down currents of cool air bore them into the Westland valleys until great banks of evil cloud piled one above another stretched outwards to the sea. Other clouds, formed at greater heights, spilled across the range and swirled about us. Soon mingled rain and snow was speeding our descent. But, had our vision been able to penetrate the mist, we should have seen the sun still shining on the lower hills a few miles eastwards, for the zone of wet weather extends only a short distance across the range.

As a result of these storms snow lies perpetually down to an average altitude of six thousand feet—over three thousand feet lower than in Switzerland. The glaciers similarly are larger; the Tasman glacier on the eastern side of the Mt. Cook group is eighteen miles long—five miles longer than the Aletsch, which is the longest in Switzerland. But the Tasman is not New Zealand's most remarkable glacier: that distinction belongs jointly to the Franz Josef and the Fox which descend on the western flank of the range, to within seven hundred feet of sea level. The lower parts of their courses are flanked by forests—a juxtaposition of luxuriant vegetation and glacier ice perhaps unequalled anywhere in the world. The low level
which these glaciers reach is explained by the combined circumstances of their exceptionally large catchment areas, the steepness of their descent, and the heavy snowfall.

Equally striking is the effect of the nor'-westers upon the vegetation of the valleys. On the western flanks are forests of semi-tropical luxuriance deeply green and moist with a richness of ferns and mosses which is possible only in perpetually rain-drenched regions. Across the mountains is a different vegetation. There the foothills rise in arid brown waves above the broad pastures of the Canterbury plains or the more broken Otago sheeplands. Austere groups of poplars planted for shelter beside the scattered homesteads alone relieve these naked hills, until one penetrates close enough to the main range to feel in some measure the north-west rains. Here are found the beech forests mentioned in an earlier chapter. Their extent varies, being greatest in places where the peaks least impede the progress of the storms.

To a climber accustomed to European mountains the New Zealand valleys with their few habitations and their predominantly indigenous vegetation would seem less familiar than the scene above the snow-line. But the peaks too have their own distinctive character. Their shapes are usually less graceful and individual than those in Europe, but the ice landscapes are on a grander scale. The rocks are usually more friable than those of Switzerland and they weather more quickly. There is no counterpart to the Chamonix aiguilles or the shapely isolation of the Matterhorn, for such structures arise only when the rock is hard and enduring. New Zealand peaks usually stand together in great massifs and in any one district they tend to conform one to another in height. To this rule there are exceptions but it is more rare in New Zealand than in Switzerland for a mountain to present individual dominating faces to all its flanks. The grandeur of the mountains comes less from the outlines of the peaks than from the ice which decks them and from their colour—that special quality of azure which they develop on sunny afternoons. It is subtly different from the colour of all other mountains that I know.
THE SOUTHERN ALPS OF NEW ZEALAND

New Zealand has little rock-climbing comparable to that of Europe; it is to the ice climber and the skier that the range makes its great appeal. The glaciers are not only larger than those of Switzerland, they are also more active. Consequently the icefalls are more broken and the problems of the climber are greater. It has been said that Mt. Tasman, the second highest peak in the range, is the finest ice climb in temperate regions, excepting only the Himalayas. Of it, however, I cannot write from personal knowledge.

For these reasons it would be misleading to compare New Zealand peaks with peaks of similar height in Switzerland. Altitude alone means little; to the Swiss climber the phrase ‘at the altitude of twelve thousand feet’ brings up the memory of high glaciers and snowfields, but for the resident in Kashmir it recalls shaded glades near the upper forest limit ideal for picnicking. The extent of glaciation must be brought into the comparison, and if this is done the New Zealand mountains are at least on a parity with the Alps.

The highest summits were naturally the first prizes which climbers sought and for many years climbing was almost confined to the Mt. Cook region. Here are the main climbing centres: the Hermitage near the Tasman glacier; the Glaciers hotel at Waiho below the Franz Josef; and the Fox Glacier hostel. Below the principal peaks huts have been built and it is now many years since all the highest peaks were first ascended. The Mt. Cook region provides the finest climbing and the best facilities for the climber, but it offers less opportunity for exploratory mountaineering than the lesser ranges which stretch to the north and the south. There, in the early 1930’s, many of the peaks were still unclimbed, the passes between them uncrossed, and the glaciers untrodden. The valleys were usually barren of huts or any habitation; sometimes no tracks, not even the most primitive, led to them. To these ranges both circumstances and choice impelled me in common with many others who began their climbing in those years. At first the greater mountains were beyond our powers, but later we found more solid reason for our choice. We were breaking new ground which is among the keenest of human delights.
Our holidays were expeditions in miniature and the planning of them filled our evenings for months.

The younger generation of New Zealand climbers accepted so eagerly the invitation of the unexplored hills that few of the peaks that fired our imagination a dozen years ago are still unclimbed. We who climbed in the early 1930's were thus doubly lucky, lucky in the time as well as the scene of our climbing. We saw the lesser ranges of the Southern Alps as de Saussure saw Chamonix, as Slingsby saw Norway, as we today may still see many parts of the Himalayas. The scale was smaller but the essence of the experience was the same. It was a unique opportunity. In almost every other part of the world long and expensive journeys were necessary to reach untrodden mountains. But in New Zealand they lay close to our doorsteps. We could taste the thrill of exploration during short and inexpensive holidays. At the time I did not realize the rarity of this opportunity. The peaks were there and we climbed them. Later years have shown the greatness of the gift we accepted as if it were our natural right.

Sometimes when we carried our heavy rucksacks we thought enviously of Switzerland where the climber may reach his peak within forty-eight hours of leaving Victoria Station. Our shoulder-aching marches seemed without virtue and it was only when I had myself climbed in Switzerland that I realized fully the value of my New Zealand apprenticeship. These New Zealand seasons taught me that reaching the summits of peaks is but a part of mountaineering—a small part at that. It is the misfortune of those who climb only in well-known regions that each amenity provided for them, be it a hotel, a guide-book, or a railway, narrows the field of their endeavour until only the final act of climbing remains. The mountaineer who wishes the fullest enjoyment must reject all artificial aids he reasonably can, know the mountains through his own experience, learn their moods, and make careful reconnaissance before he climbs. Much depends upon his manner of approach—especially in his first seasons. He must attune his mind as well as his body to that long rhythm which is the secret of mountain climbing. By suitable exercise he can get his muscles
into condition before reaching the mountains but the right mental outlook can be developed only among the hills. The slowest and most laborious approach may in the end be the most rewarding. I can now see that those sweltering days when unaccustomed shoulders ached beneath my pack had lasting value. They led me to appreciate climbing more fully than if I had reached the mountains without exertion. And I count myself lucky to have begun my mountaineering among the comparatively unknown New Zealand hills.
CHRISTMAS marks the beginning of the summer holidays in New Zealand and on the afternoon of Christmas Day 1931 we of the advance party waited eagerly for our companions at the New Zealand Alpine Club camp. In twos and threes they came until late at night the entire party, rather more than twenty in number, was assembled. We were organized as two parties of eight climbers each, with in addition a smaller group composed of men more interested in photography and valley travel than in climbing. To this latter party we others were indebted for an excellently managed base camp.

In each climbing party were four or five experienced men; we were to climb four men to a rope, the experienced and inexperienced being equally divided. The leaders of the party to which I belonged were A. P. Harper and J. A. Sim. Sim I already knew. He had been a much-tried though unfailing alpine encyclopaedia since he introduced me to the club, but until we met in the Rees valley, Harper was only a name—a name so august that it seemed presumptuous to begin mountaineering in his company.

Harper was the father of New Zealand mountaineering, that is to say of mountaineering by New Zealanders. Before his time several distinguished men from overseas had climbed in the Southern Alps, but few New Zealanders. He was an almost legendary figure, and his explorations of the glaciers and valleys of the west coast, with C. E. Douglas in the early 1890's, are an epic at least as great as the story of the ascent of the highest peaks. Now at the age of sixty-seven he was returning to the hills after a long absence to further that work to which of all things he was most devoted—the encouragement of young climbers.

I remember our first meeting. A tall unstooping figure, iron-grey of beard and hair, and with penetrating grey eyes, he strode into the base camp after sundown, seemingly no more
Rees Valley Camp, Christmas 1931: above: The peaks; below: One of the parties: A.P. Harper on left; J. A. Sim on right; author second from right.
Incidents of camping: above: Drying clothes after a storm; Johnson and the author
below: Bivouac under overhanging rock; Johnson and Archie Scott
fatigued than a man half his age. In his hand was a long-shafted ice-axe such as climbers used twenty years before, and his clothes, particularly the close-cut knickerbockers, belonged also to an earlier time. Clothes bespoke the man. Harper was a Victorian, an autocrat. He did not think, he knew with an assurance bred in days more certain than our own.

To him the greatest days of mountaineering had been when Horace Walker and Mummery climbed in the Alps. He recognized few great mountaineers since Slingsby and Collie and Bruce. But Harper was something more as well, else how could he have won the affection of a generation to which autocracy was abhorrent and the advice of age suspect? Stronger even than his strongest prejudices was his love of mountains, and his sympathy for all who shared his enthusiasm. In the years which followed the Rees valley camp the differences between the mountaineering attitude of the 1890’s and the 1930’s became to him less and less important. Those of us, and we were many, to whom he gave his friendship owe much to him.

To see him move on grass slopes or on snow was a lesson in graceful economy of effort, and it was characteristic that only after a fierce struggle would he agree that age was exempt from load-carrying. Unloaded he could keep up easily with the youngest of us and his enjoyment at least equalled ours. He was inseparable from his pipe. When at home he smoked, so he said, but one pipe a day—from after breakfast until bedtime—but on the hills he limited himself to three, after the main meals of the day. He proclaimed frequently that pipe smoking did no harm to any man and was himself a fine argument for his theory. [Since these pages were written news has reached me of the Jubilee of the New Zealand Alpine Club in the early war years. For the occasion Harper returned to the Presidency, but even then his climbing had not ended; I have before me a photograph of him at a climbing camp at Christmas 1945. Nearly equalling him in contempt for age is G. E. Maunering. Their lives together are the greatest of all New Zealand climbing records.]

The other five members of our party were nearer my own
age and, as I came to realize later, they epitomized that enthusiasm and physical exuberance which was a prominent characteristic of the younger generation of New Zealanders then turning to the Southern Alps. They were among the first of that gay fraternity which in the summers of the 1930's climbed almost every summit of the Otago ranges and in the winters filled the meetings of the Otago section of the New Zealand Alpine Club. It was a close fraternity but not a narrow one; enthusiasm for climbing, willingness to carry heavy packs, and to enjoy the vicissitudes of evil weather were perhaps the main qualifications they demanded. The standard of climbing, ice climbing especially, became high; the club's Journals prove it. But the most and the least accomplished met on an equal footing. Social barriers and affectations were unknown, for such things flourish only in artificial societies. I remember gratefully the years when I was of their number.

On Boxing Day we left the base camp in brilliant sunshine and before mid-afternoon we had pitched our tents on an alpine meadow below the northern summits of the Forbes range. These had been chosen for our first climbs because they were less known, though lower, than the Earnslaw massif in the south.

The winter snows had melted only a few weeks before and beside our tents alpine flowers were now at the height of their summer glory. The peaks smiled at us through the azure haze of the afternoon. Harsh detail was softened. It was the hour when the climber feels confident of the morrow's success. I could scarcely have had a kinder introduction to the delights of camping among mountains: the joy of relaxing in the warm sun of late afternoon; the leisurely evening meal; the after-dinner pipe, last and best of the day, while the flame of sunset died on the peaks and night welled up from the purple valleys. Then the close cosiness of a sleeping-bag, a few moments lazy speculation and sleep.

During the night a fierce nor'-west storm blew up and I was awakened by a confusion of mixed sensations. Someone, it seemed, was jerking my sleeping-bag from the ground, cracking a whip over my head and playing a fine spray on my face.
The full force of the storm had smitten our fragile tent. Guyropes were loosened and had not the floor been sewn to the upper canvas, so that the weight of our bodies held it down, the tent would have been carried away. Dawn revealed a grey and unrelenting world and as the morning wore on the hollow where we had camped turned slowly into a pond. Our sleeping-bags and clothing were sodden and in the afternoon we set off dismally to the valley.

In my earlier holidays I had experienced many storms but they had interfered little with our plans. There is surprising pleasure in tramping through sodden forests, and only the flooded rivers had inconvenienced us. But for the mountaineer bad weather is more serious; he must either remain in his cramped bivouac or retreat to the valley.

I can think of only one pleasing characteristic of the nor'-wester—knowledge of weather signs usually enables a reasonably accurate forecast of it to be made. We had a surprising example of this when we were barely half-way back to the Rees valley. The rain was almost fiercer than before but it was veering slowly toward the south. Harper divined from this that the storm was nearly spent and he persuaded our sceptical party to camp. Within an hour patches of blue sky melted through the clouds, and once more we prepared to climb on the morrow.

Stars glittered through the frosty midnight air when I awoke to the sounds of cooking and the bustle of preparation. We were soon on our way. Ahead a lantern flicker showed where the leader picked our route upwards through the debris of a landslide. Stumbling we followed. The moon, rising behind the ridge on which we climbed, bathed the opposite side of the valley in pale light and by contrast intensified the darkness which surrounded us. The first hint of dawn lightened the eastern sky when we arrived at our old camp and, halting briefly, concealed our packs beneath cairns of flat stones so that the keas would not find them. These birds are similar in size to pheasants; they belong to the parrot family and are inordinately inquisitive. Anything shining or unusual attracts them and they delight in tearing tents or packs or rolling loose
articles down the mountainside. They were frequent visitors to high camps, a source of mixed amusement and annoyance.

Relieved of our loads we travelled quickly and came to the first snowfields as the sun climbed into the sky. Soon I was receiving my first lesson in the use of the climbing rope. I think I was a willing pupil but the unaccustomed beauty of blue icicle-hung crevasses and glistening snow-slopes discouraged concentration.

The career of a mountaineer begins, so far as it can be said to have a precise time of beginning, when he first has a climbing rope about his waist. For me that time had now come, and it is small wonder that I have retained so clear and detailed a memory of that first morning on a glacier. The slope was gentle and the crevasses well bridged by snow—an ideal nursery—and I can visualize that unnamed and insignificant glacier with greater clarity than many icefalls of later years which are more worthy of recollection. Equally clearly I remember the grip of the rope about my waist and its unruly coils which my unaccustomed hands found difficult to master.

To many people who have not climbed—and I was then of their number—the use of a climbing rope seems a mysterious ritual. A few years ago after a minor climbing accident in Wales a great London paper described how climbers ‘throw grapnels up precipices and hoist themselves up on ropes’. I remember also, and this recollection is from my school days, a horror story set on a mountain. At the climax when a few bodies were hurtling through space the author remarked, ‘The time had now come to cut the rope. The guide had his knife ready clasped between his teeth.’ I have tried since and failed to trace that magazine.

By contrast to these fictions the reality was naturally prosaic, even tedious, for the correct handling of the rope is an art born only of care, patience and alertness. This travail no climber can escape, for correct handling of the rope is a \textit{sine qua non} of good mountaineering. Carelessness can turn it from a valuable safeguard into one of the most insidious mountaineering dangers. Many accidents are directly traceable to this cause; an entire party may be involved in the consequences of a slip by
one of its members. Some of my worst memories have been due to bad rope work. One which still gives me a genuine thrill of terror is of a moment a few years after I left New Zealand. The route lay obliquely round an ice rib as unyielding and as nearly perpendicular as any on which I ever hope to climb. A great space lay below. On the crest of the rib an inconvenient bulge opposed my chest, forcing my balance outwards but by leaning forward it was possible to chip hand- and foot-holds across the steepest part. Having done this I shouted to my companion, who was out of sight and below me, that I would need several feet of rope. He answered and I moved outwards. My foot had just reached the welcome step beyond the bulge and I was swinging my weight forwards when the rope tightened, jerking me backwards. I swayed for one long precarious second, and then, by good fortune rather than by skill, slowly regained my former step.

No doubt in my first seasons I gave similar gratuitous thrills to my companions. But no untoward incidents marred that first glacier crossing above the Rees valley. After two hours we reached a small pass whence we had hoped to traverse a rocky ridge to Mt. Ellie, which had been climbed only once before, and then from the opposite direction. We had not been able to make a preliminary reconnaissance, and it was soon realized that the snow-plastered rocks were unclimbable by our largely inexperienced party. Retreat was the only course, but I felt no disappointment. For the first time I had climbed on an exposed ridge, I had looked down steep faces to the far glaciers and I had enjoyed the experience more than I had dared to hope.

We now turned towards an easier peak named Mt. Clarke. It was the first alpine summit that I reached, but I have only one clear memory of the ascent. Our route lay on a gentle ridge, but to gain it we had to cross a concavity of snow perhaps a hundred feet deep. The more experienced of our party glissaded gracefully downwards, that is to say they slid standing upright and using their ice-axes to adjust their balance. I tried to imitate them. For the first few feet I seemed to move gracefully enough. Then gravity took charge and I moved...
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faster and faster, with no control of my movements but still upright, until reaching a slight irregularity in the snow I lost my balance and completed the descent in a series of cartwheel turns. My shirt, mouth and pockets were filled with snow, but I was still in proud possession of my ice-axe. A few months later in Mountain Craft I read Geoffrey Winthrop Young’s description of a novice’s first glissade. It might have been a description of mine; apparently my mountaineering was developing in the classic pattern.

The view from Mt. Clarke was a revelation of the vast continuity of the mountains. Hitherto I had spent my time in the valleys with a limited horizon and I had seen the ranges as a series of unconnected views. But now valleys and mountains were spread out like a map before me; I could trace the watersheds and the courses of the rivers as integral parts of the same landscape. I began to appreciate their true structure. I was also beginning to understand another aspect of mountains—their changefulness. Hitherto I had regarded them as static and unaltering, but a closer acquaintance led to a different and more dynamic view. In the Rees valley I saw hills scarred by landslides and glaciers laden with moraine. That started a train of thought which lectures in geomorphology later clarified; I came to realize that during the long ages of geological time the land had been uplifted and the hills sculptured by the slow action of the weather; that the rock-falls which I saw were the most recent of an age-old series which were in their sum responsible for the shaping of the precipices as they were today; that in the future the process would continue until the mountains were levelled to a plain.

From the remaining days of this trip a few incidents stand out; the exquisite beauty of moonlight glittering on dew-damp alpine flowers; the frozen rope which numbed my fingers when a sudden storm caught us on the ridge of Mt. Ellie; glimpses through the clouds of sunlit forest, infinitely remote beside the Tasman Sea; finally, and perhaps most vivid of all, the delight of rest, of a well-cooked meal and of a long sleep when we reached the base camp at the end of an eighteen-hour day. Several of the party were now due to return to their city offices,
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but those of us who were more fortunate decided to attempt Mt. Earnslaw, the second highest mountain in the Otago Alps. My great ambition was to ascend it this season.

In the teeth of an approaching storm we reached the small corrugated-iron shepherd’s hut from which the climb is made. A wild night followed; the chimney rattled and strained against the chains which secured it to the mountain. But at dawn a slight improvement in the weather encouraged us to set out. We had scarcely reached the glacier when the returning storm drove us downwards. After one further day of waiting we returned to Queenstown.

Our storm-bound time at the Earnslaw hut was, however, not without profit. While we sat smoking in the crowded hut, Harper discoursed on mountaineering from every angle; of his early expeditions on the West Coast; of Switzerland, when Miss Lucy Walker held court at the Monte Rosa hotel; of the Alpine Club and the encouragement it had given to the New Zealand club in its early days. Then turning to the history of his own pet child, the New Zealand Alpine Club, he described its formation in 1891 by a handful of enthusiasts of whom he was himself the prime mover; G. E. Mannering, the pioneer climber upon the high peaks, was his chief supporter.

Since then the history of the club has been an epitome of the attitude of the New Zealanders to their mountains. The first enthusiasm was shortlived—the settlers of a new country had more urgent outlets for their energy than mountaineering. As a result the majority of the highest peaks were first climbed by visitors from Europe. But after the Great War the New Zealanders suddenly discovered their own mountains. Small groups began to climb in many parts of the country, first on the hills surrounding their homes, then, as skill and ambition increased, upon the high peaks. This rising tide of enthusiasm led to the revival of the club; and since then its membership and its prestige have increased year by year.

The club fulfils a particularly important function in New Zealand because professional guides have contributed little to the development of the sport. In this New Zealand contrasts sharply with Switzerland. The amateur climber in Switzerland
may have never employed guides, but he is none the less influenced by them. He observes their technique on the peaks and hears their opinions in the huts. If he is uncertain of his route he often watches guided parties, though he may pretend not to do so. This guidance, an important aid to safety, is seldom available in New Zealand. Probably there are no other climbers within miles and the leader of a party must rely on his own unaided judgment. By its training camps, at its meetings and through articles in its journal the New Zealand Alpine Club helps its younger members to develop the necessary powers of judgment. This is the most important service that a climbing club can render. A measure of its success is the rareness of climbing accidents.

Then Harper would speak of the more practical aspects of mountaineering—weather forecasting, bush-craft, glacier-craft and the technique of fording rivers. On these subjects his knowledge was supreme. Sometimes the conversation turned to the contemporary leaders of British mountaineering. Harper had a profound respect for the Alpine Club, and, in his descriptions, its members became mighty and distant figures, living and breathing on a plane scarcely within our understanding. A few years later I was surprised to find that the greatest of these Olympians were quite approachable. Their embarrassment would have been most diverting if they could have listened unnoticed to our discussions of their achievements; if, for example, the author of Mountain Craft could have heard two friends of mine decide, after long consideration, that the little space remaining in a ninety-pound pack would be better filled by that somewhat weighty tome than by the equivalent bulk of jam, tobacco and sardines.

When the Rees valley camp had ended I joined my brother and three fellow students for a tramping tour in the valleys which lie towards Milford Sound. Time was our own and I spent many delightful hours on the alpine meadows and in the forest studying the flora. In weight my specimens exceeded the stores we ate, and at the end of the trip my pack was heavier than at the beginning.

One of the most surprising characteristics of the flowers of
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the Southern Alps is the absence of high colour. In Switzerland and in the Himalaya the glory of the alpine meadows is the contrasting yet harmonious vividness of reds, oranges and above all blues; but among the New Zealand mountains the flowers are predominantly white or pale yellow. Genera noted in other lands for their rich colours are often represented in New Zealand by pale-flowered species; gentians stand almost alone in bearing flowers comparable in depth of colour with those in other lands, though white ones also occur. Whether it is the climate or the soil or some other factor which deprives the flowers of high colour is not known.

The flora of the Southern Alps has, however, great charm and beauty. Many of the plants are striking and unusual in form and the majority of them are found in no other part of the world. One of the most common genera is *Ranunculus*; the finest of all New Zealand alpine plants is *Ranunculus Lyallii*, the 'Mountain Lily'. *Ranunculus* is the genus of the buttercup, but the 'Lily' of the New Zealand mountains disowns its humble lowland relatives. None the less it is a buttercup—the largest and most dignified buttercup in the world. The plants may exceed four feet in height, and their leaves, thick, glossy and saucer-shaped, are sometimes a foot in diameter. Above them rise the long-stalked clusters of white-petalled, golden-centred flowers, like water-lilies, but more delicate. Growing together in large drifts they have a rare and elegant beauty. There are also many smaller *Ranunculi*—white, orange or occasionally pale pink in colour. Some gain an added loveliness by contrast with the shattered rocks on which they grow.

Even more abundant are the members of the daisy family (*Compositae*). Their number and variety are, botanically, among the most interesting features of the flora. Many of them are perennial shrubs but the smaller plants are the most beautiful; *Celmisia*, of which there are more than forty species, is the outstanding genus. It has aster-like flowers set in dense rosettes of lance-shaped leaves, satiny white beneath, silvery-grey or green above. Some are plants in miniature, only an inch or two in height; others form clumps with large white or pale-mauve flowers borne eighteen inches or more above the
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ground. Then there is *Senecio*, of which some species are shrubby, some like large Michaelmas daisies white or orange in colour; and *Gnaphalium*, the New Zealand edelweiss, which is similar in appearance to its Swiss prototype though botanically distinct. To the daisy family also belong the cushion plants or ‘vegetable sheep’ of the drier hills. They are strange plants with stunted leaves and branches so closely packed together that they form greenish-white cushions, so hard that a boot scarcely sinks into them and sometimes more than a yard in diameter. At a distance they look remarkably like sheep.

The parsley family (*Umbelliferae*) is also prominent. Among its members are the spear grasses (*Aciphylla*)—with harsh leaves cut into narrow lance-like segments, each terminating in a sharp spike. There are many species of *Aciphylla*; some are only a few inches high, but others form domes two or three feet in diameter of rapier spikes, surmounted by great flowering stalks sometimes taller than a man. When their innumerable small pale flowers are blooming they are a striking spectacle, especially upon a skyline; but to the climber who must pass they are a painful obstacle. With the ‘bush lawyer’ (*Rubus*), a thorny climbing plant, they have caused more bad language than all the other plants of New Zealand; their leaf-tips, sharp and rigid as rapier points, pierce deeply into uncautious limbs.

Wide stretches of hillside between the forest and the alpine meadows are covered with shrubs of many types. Veronicas (*Hebe*) are often abundant. Some are like neatly clipped box shrubs while others have small scale-like leaves which make the branches resemble whipcords of plaited leather. Several New Zealand veronicas are now familiar in English gardens.

My first essay at the study of alpine vegetation led me to make botany the major subject for my university degree. Work and recreation could, I felt, harmonize—the combination of my interests, botanical and mountaineering, should in the future yield more than either if separately pursued. One important circumstance favoured the development of this attitude—the personality of the lecturer in botany under whom I studied in the University of Otago. Dr. J. E. Holloway was an outstanding naturalist, research worker and teacher. Our
small botany school was exceptionally fortunate to possess so fine a Head. Some measure of his calibre is the fact that in 1937, despite the remoteness of his post, he was elected to the Fellowship of the Royal Society. I learned more from him than the structure and classification and ecology of plants; my ambition towards scientific exploration was born of our excursions on the misty Dunedin hills.

Before I arrived back in my home from that first mountain-eering season I was already making plans for the next year. I set myself two tasks for the winter months; to find the right climbing companion and to read Alpine literature. The companions of my first season were debarred by their occupations from spending more than one or two weeks in the hills each year and I sought as my companion someone who, like myself, enjoyed the long luxury of the university vacations.

The climber, especially if he does not employ guides, stands in a relationship of special intimacy to his companions. It is something more than that friendship which all sports engender. The intangible bond between climbers is signified by the tangible link of the rope joining their bodies; its proper use as a physical safeguard is a large part of their art but its psychological significance is even greater. The climber has a dual existence; as well as an independent individual he is, for the duration of his climb, part of a larger organism which exceeds the sum of its components both in physical and mental capability. For the highest performance the acquisition of this joint outlook exceeds in importance the more easily acquired physical technique. Other things too accentuate this special personal relationship. Treading precisely in his companions' footsteps or they in his, the climber is concerned with their pace and humour as much as with his own. Then, too, there is that isolation which climbers share—iso]
Of all the gifts of fortune which enabled me to become a mountaineer my climbing companionships have been the greatest. Knowing people really well is never without its shocks; but the shocks have not been many. For this the credit belongs to the tolerance of my friends and to good luck, for I have done several times what no climber should do—namely climbed with people whom I did not know and who did not know me. Memory elides uncongenial relationships; at the worst a party of three seems in retrospect to have had two members only. But happy associations have retained at least their original quality. To recall them is one of the major pleasures of writing these pages.

A brief Whitsun holiday on the coastal cliffs near Dunedin brought into being my first and longest climbing partnership. From then onwards until I left New Zealand Christopher Johnson and I climbed together. We had both been drawn to mountains in much the same roundabout way; his interest in the countryside, like mine, had been stimulated by a boyhood migration to New Zealand. Our enthusiasm was equal and, as we found our way among the hills, our capacities proved complementary. On rock he was the better, agile and sure to a degree beyond my powers; step-cutting was my province. He was the cook and while he cooked I reconnoitred. The knowledge I had gained at the Rees valley camp became quickly our common property. What we lacked in knowledge we endeavoured to make up with enthusiasm.

Making plans delighted us both; talking or reading about mountains was the ideal occupation of our evenings. We read every climbing book that we could find. Geoffrey Winthrop Young's *Mountain Craft* was our mentor, studied more closely than any university text-book. A quotation from it was final in any argument. *Mountain Craft* led us naturally to *On High Hills* and so the literature of mountaineering was gradually unfolded. Whymper's *Scrambles among the Alps* was another of the events of that winter. Leslie Stephen's *Playground of Europe* and Tyndall's *Glaciers of the Alps* came later, and many others. But the books that I have named have given me the most enduring pleasure. They have this in common—they do not
merely describe experiences, they also introduce us to their authors; I thought I could imagine just what conversation would have passed had we met Professor Tyndall in a hut. We read also all that we could find about the New Zealand Alps—a scanty literature. Green’s *High Alps of New Zealand*, Harper’s *Pioneer Work in the Alps of New Zealand* and Mannering’s *With Axe and Rope in the New Zealand Alps* were the classics; but they had been written over thirty-five years before. Few more recent publications were of use to us, except the rare slim numbers of the *New Zealand Alpine Journal* and some Survey Department reports. Today New Zealand climbers are more fortunate; since 1932 the *New Zealand Alpine Journal*, edited by J. A. Sim, has provided a wealth of information.

The principal preoccupation of Johnson and myself in 1931 was, however, our plans for the next summer. To them we gave prolonged thought, designing and sometimes making our own equipment. Food was a vital consideration; we examined the stores lists of all manner of expeditions and consulted our medical friends in search of a diet at once balanced and light in weight. We found that pemmican was important in the diet of all proper explorers. In its simplest form this food is sun-dried lean meat but the pemmican used by most modern travellers is a mixture of pulverized meat—beef fibrin, as the makers describe it—and animal fats. Its great virtue is its high food value—the result of the absence of moisture. As it was unprocurable in New Zealand we attempted to make it for ourselves. We carried out our researches in the kitchen of my home, to the detriment of all normal cooking activity, and it was some time before the electric range which we used as a drying oven was again serviceable for its usual purposes. The finished article was of undoubted food value, but bore little resemblance to the Bovril product. Extreme hunger was necessary to overcome its remarkably unpleasant flavour.

Thus we filled our leisure while winter turned to spring and spring to summer. Then the university year ended and we departed to the hills.
From Mt. Sefton, southernmost of the great peaks of the Mt. Cook group, the main watershed stretches southwards to the Haast Pass, forty-five miles distant, in an almost straight line. On its western flank is the Landsborough, one of the notable rivers of the Southern Alps. Mountain valleys usually lie at right angles to the main chain, following the shortest course to the sea, but the Landsborough is an exception. From its source in the McKerrow glacier to the south of Mt. Sefton it flows parallel to the watershed for forty miles before turning abruptly towards the coast. The deep trough of its course is walled on the west by the Hooker range, a chain of some half-dozen attractive peaks parallel to the main range. A journey across the Southern Alps in this region consequently involves the crossing of not one but two ranges—the Main Divide and the Hooker range—with the long descent to the Landsborough between. This had been accomplished only once—by the surveyor Brodrick, in 1890—and we decided to make the repetition of his journey the main purpose of our next climbing season. There was in this undertaking that pleasant element of uncertainty which is the spice of any mountaineering venture—success or failure depended on whether we could cross the Landsborough which is frequently unfordable in summer. Our plans held another great attraction—the peaks on the Main Divide for a distance of nearly forty miles were unclimbed and the Hooker range was similarly virgin. We would be able to plan a fine climbing programme for the future.

Our party consisted of Johnson; Wyn Irwin, a doctor at the Otago Medical School; Graham Burns, a fellow student; and myself. Johnson, Burns and I spent a preliminary fortnight in the Rees valley, practising our newly learned technique and making ourselves fit. Then we motored to Cromwell where Irwin joined us. On the road our progress, in a very old Ford car, was even less certain than on the hills. The car complained
and shuddered over the steep and winding road but, miraculously, we kept our rendezvous with Irwin. He had brought our provisions for three weeks, and we secured them with an elaborate cat's cradle of rope to the running boards, luggage grid and bonnet of the car; but odd packages flowed inwards and some rather delicate climbing was necessary to insert our bodies into the seats.

Cromwell was a relic of the old gold-mining days. Its wide dusty streets carried little traffic and the majority of its wooden-verandahed shops were tenantless. Their iron roofs were blistered, and their unpainted weatherboards were cracked and warped by the sun. The forgotten towns of the old world often have an air of peaceful somnolence—moss-covered walls gain dignity with age. Not so this derelict gold-mining township. It was soiled, stark and ugly, a reminder of the violent days when the hope of easily found gold had drawn the flotsam of a hemisphere to its streets.

Leaving the township behind us we drove northwards through brown tussock hills. Our route was across Lindis pass on the watershed between the Clutha river, which drains lakes Wanaka and Wakatipu, and the Waitaki river, of which lake Ohau and the lakes farther north are the source. The road rose steadily and though the gradient was not steep we halted frequently so that our boiling engine could cool. Between halts we made an uncertain ten or fifteen miles an hour, and when darkness descended we were still several miles from the pass. Friends in the valley beyond were expecting us at their homestead and using our feeble headlamps we continued up the road. We had now ceased to worry when the engine boiled. Then one of us chanced to look downwards and saw a ruddy glow through the floorboards. For some time past the fumes of oil which the engine usually exhaled had been increasing, and thinking that the car had now caught fire we stopped hurriedly. However, nothing of consequence was amiss—merely the exhaust pipe was red-hot. This apparently was its normal condition, which in daylight had passed unnoticed. A little later the lights of the car failed.

Barely a mile behind us was the last homestead on the
southern side of the pass and we walked back to it. The home-
stead was on the telephone but there was no line across the
pass, so that, though our friends were a bare dozen miles away,
we could talk to them only through a circuit of over two
hundred miles, by way of Cromwell, Dunedin and half a
dozent other towns. It would take a long time and much money
to rouse the sleeping operators in these exchanges, and if we
got through it was quite probable that speech would be in-
audible. We therefore returned to sleep on the roadway,
leaving our friends speculating as to whether or not we had
crashed down the mountainside.

The cool of dawn awoke new energies in the car and in the
middle of the morning we halted for a sumptuous lunch at
our friends’ homestead and then drove onwards, coming
towards sunset to lake Ohau. The road now was scarcely
distinguishable from a gravel-bed; once indeed we started to
drive up a creek in preference to it.

The car shuddered more with every mile but after a second
night by the roadside we urged her several miles past the
official termination of the road across the river flats of the
Hopkins valley. Wheeled transport could carry us no farther.

The following morning we marched up the wide sunlit
valley. Before us the summit pyramid of Mt. Ward, 8,681
feet, rose above heavily timbered slopes. It was the highest
named virgin mountain in New Zealand. Evening brought
heavy rain and on the next day our progress was arrested by a
swollen river which lay between us and the foot of Brodrick’s
pass on the Main Divide. It was not a wide stream—probably
not more than twenty or thirty yards in breadth—but it
moved with a mad fury, filling the air with its thunder. A
deeper and more sinister noise came also to our ears, the
rumbling of boulders ground one against another as the flood
swept them along. We attempted to ford; before I had
advanced more than a dozen paces I was nearly swept from my
feet and I returned to the bank grateful for the security of the
climbing rope which was around my waist.

Safety in fording these swift mountain torrents depends on
retaining a firm footing; this is surprisingly difficult even if
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the water reaches only a little above the knees. Its icy coldness numbs the limbs and its opaqueness makes it impossible to judge where the next foot should be placed; that must be discovered by exploring with one's foot along the stream bottom. The roar of the water oppresses the ears and its speed dazzles the eyes. Never did I emerge from a flooded stream either on the bank I wished to reach or, defeated, on that from which I had started, without a strong feeling of relief.

Rain was still falling when I rejoined my companions on the wrong side of the river. There was no chance of it subsiding before evening; so, cold and wet, we searched the bleak valley for a sheltered spot in which to weather out the storm. Most New Zealand valleys are strewn with large 'erratic' boulders, dropped by the ancient glaciers. Often one side is overhanging and we usually found that they gave more comfortable shelter in heavy rain than our small and porous tents. There was, however, only one thing to recommend the hole in which we eventually went to earth today—it was dry. The roof, never more than twenty-four inches off the ground, was considerably lower in most parts. During the night my sleeping-bag slipped gradually downhill until I awoke with my ribs pressed tightly against the cave roof. I had thought myself immune to claustrophobia, but in the pitch darkness, unable to move except by a breathless uphill wriggle, I knew a few moments of cold terror. As soon as my ribs were free and I could again breathe in comfort I fell asleep, but that brief experience gave me a new sympathy for the claustrophobic. For thirty-six hours the storm lasted and we remained in this cramped shelter.

Brodrick's pass, which we crossed when the weather relented, left a memory of steep grassy slopes veiled in mist. The summit was a desolation of broken rock and snow-filled hollows, swept by a keen wind.

The storm returned soon after we crossed the pass and we spent a cramped and sodden night in our tent near the timber line. Next morning we continued downwards through luxuriant rain-soaked forest till at midday we reached the grassy flats beside the Landsborough river. Sunshine, our first
for five days, broke through the clouds and we lost no time in spreading out the contents of our packs. Stripped of our clothes, we were lying luxuriating in the sunshine, when to our surprise three men emerged from the forest and came towards us. They were deer cullers and they offered us unlimited fresh venison at their camp half a mile upstream.

The lower Landsborough was at one time a fine deer-stalking district, but the deer, imported animals, multiplied so rapidly that the forest and alpine meadows were seriously damaged, and in some places destroyed. Deer-slaying ceased to be a sport; from being protected animals the deer became a pest. Their ravages, second only to those of the rabbit in Australia, point the folly of tampering with the natural fauna, and in a belated effort to control the herds the men we met had been working slowly up the valley for the last three months. Culling is perhaps a misleading description for their work as they shot every animal which came within range, it being certain that enough deer remained hidden in deep gullies to prevent their entire extermination.

We were the cullers' first visitors and they gave us a royal welcome. For three days we camped beside them, hoping that the river would subside sufficiently for us to cross. There was but one annoyance in these leisurely days, the bluebottle fly. This cosmopolitan creature, a frequent nuisance in the New Zealand bush, was enjoying a particularly good season. Deer carcases, carelessly disposed of, made the valley a flies' paradise and it seemed that all the bluebottles in creation were gathered there. They were healthier and in one direction at any rate better developed than their town-dwelling cousins, and we spent hours scraping their eggs from our woollen clothing and sleeping-bags. Any fold attracted them, and it was important that clothes drying in the sun should be hung well off the ground and without creases. In the tent we rolled up all our kit in waterproof ground-sheets—for the flies were fastidious and laid their eggs only in the folds of fluffy materials—but despite our precautions they always outwitted us. The cullers thought us unnecessarily particular.

Two or three times each day we walked down to the bank
of the Landsborough, hoping that its volume had decreased, but
two rainless days brought little improvement. The width of
the river was perhaps fifty yards and towards mid-stream
long unbreaking waves two or three feet high bore witness to
its depth and its speed. The cullers prophesied that it would
remain in spate for several more weeks and our hopes of reaching the West Coast vanished. But this was little hardship when
untouched country surrounded us; in fact our difficulty was
to decide which of several attractive routes back across the
range we would take. Eventually our earlier glimpse of Mt.
Ward decided our choice; we would travel a few miles up the
Landsborough and then seek a new pass over the main range
towards Mt. Ward.

Our first day brought us to the upper limit of the forest
where we made our camp on a small grassy ledge. The ridge
we were ascending projected buttress-like into the valley, so
that we looked straight down the Landsborough to its junction
with the Haast. Across the river rose the majestic bulk of
Mt. Hooker, from this angle a perfect pyramid of snow-
streaked rock. The nearer peaks of the main range were
obscured by the steep rocks behind us, leaving Hooker in undisputed domination.

When the sun declined, the sombre green of the forests
below us turned gradually to blue, then through changing
shades of mauve to deepest purple. Each successive spur
down the long valley took on a different tint, paling with
distance. Contour was flattened by the fading light, and the
ridges became board-like silhouettes of graduated colour, till
one by one, the nearest first, they melted into the night and a
silver-grey streak of river was alone visible. Then it too was
lost and the foaming waters of the rapids, glinting beneath the
stars, alone showed that a great valley lay below us. As I lay
in my sleeping-bag, face to the sky, my eyes focused on a giant
Aciphylla which clung to the cliff a few feet above my head.
Its spear leaves pierced the heavens, and to my drowsing brain
it seemed that they held some mysterious meaning; but I was
too tired to understand it, and I slept.

The next day was memorable for a fine and unexpected
view. At first we could see none of the high peaks and, uncertain of our whereabouts, we headed for a small summit towards the north. It was our first day of sunlight on the snowfields for many weeks, our spirits were high, and the snow passed quickly under our feet. In our eagerness Johnson and I breasted the final slope side by side. The sky widened and a great circle of unclimbed peaks stood before us. Nearest, but isolated from us by a deep gash, was the dome summit of Mt. Barron; beyond were pillared battlements of pointed rock flanked by hanging glaciers and culminating in the delicate spire of Mt. Jackson. Farther off was the broad bastion of Mt. Ward.

From that moment these unclimbed summits became the centre of our plans. Not only their form but their position attracted us; they were part of the main watershed. For any climber interested in topography the peaks which form the backbone of a region have special attraction. As he climbs, one foot on either side of the summit ridge, the snow loosened by his left boot falls towards the river on one side of the range, while that beneath his right foot has a different destiny, perhaps feeding a river which enters the sea a thousand miles in the opposite direction. If he cares to throw a snowball across the ridge he robs the valleys on one side of the range of exactly that amount of water, contributing it to the other. A watershed is no imaginary line, the climber can trace it with his finger on the snow.

But Mt. Jackson and Mt. Ward were not yet within our reach. They were inaccessible from our present camp and a more urgent problem claimed us—that of finding a route back across the watershed.

We ascended two small virgin peaks which bore the dull names Kitson and Dobson. They were memorable only as our first summits on the main range. Between them a small col made a convenient route to the eastern valleys. The slope was convex and for six or seven hundred feet it became steadily steeper. We could see our route for only a short distance, and it seemed that a false step would carry us to the unseen depths of Elcho creek, a tributary of the Hopkins river, which lay
Mount Ward from Elcho Creek
Mount Jackson from Mount Barron
THE SOUTHERN ALPS OF NEW ZEALAND

below. We descended with elaborate care. Gradually the mountainside opened before us, and though for some time the steepness was little diminished, we moved with greater confidence for we could now see where our steps would lead. The valley to which we came was desolate, strewn untidily with rocks and dotted with sparse alpine shrubs. It was nearly dark when we left the last snowfield, and hurriedly gathering a few dead twigs we built a fire to cook our evening meal. In hollows between the rocks we spread our sleeping-bags and soon we were asleep.

In the morning we walked down the valley, which fell rapidly until we reached the first small beech trees, vanguards of the advancing forest. Soon we were strolling through a shaded woodland. The hillsides crowded in so closely to the narrow valley that we could see little of the surrounding summits until we came abreast of the north branch of the Elcho. Then the great summit pyramid of Mt. Ward burst suddenly into our view, framed by the trees. Here would be an ideal base for next summer—one branch of the Elcho led to Mt. Ward, the other to Mt. Barron, while immediately above were the slopes of Mt. Jackson. Moreover, it was a pleasant site for a camp; graceful trees surrounded it and clear water was close at hand.

We now came up with another climbing party, a rare event in these lonely valleys, and together we continued down the Elcho, coming in the evening to the wide-opening Hopkins valley where we camped at the forest edge. Our neighbours were an unusual trio led by Edgar Williams, a middle-aged climber with an odd record. His companions were novices in their first season. I do not recollect when he made his first excursion in the Southern Alps, but his claim to be a veteran was not unfounded. His proudest possession was a clasp-knife, a gift from the eccentric Samuel Turner. Of all mountaineers Turner was perhaps the most egotistical and the least loved. He was a most agile climber but few men were prepared to endure his company more than once. Striving for popular recognition, he undertook, and by his skill carried out, many reckless and sensational exploits, of which his lone ascent of
Mt. Cook is one of the best known. He invited two 'witnesses' to watch the climb and to sign a certificate which in due course he published. Williams was one of them and the knife was his reward. It bore the legend, 'Presented by Mr. Samuel Turner to Mr. E. R. Williams, who witnessed him ascend Mt. Cook alone on 6th March 1919'. The engraving was neat except for the line under 'alone'. Turner had added this important emphasis with a penknife.

But to return to Williams. His reputation rested neither on the peaks he had climbed nor on his association with Turner. To meet he was quite an ordinary person, but he held, undisputed, a most unusual climbing record. He had been benighted in the Southern Alps more often than anybody else, almost more frequently than all other climbers put together. Most people would think this distinction unenviable, but not so Williams, and I believe he bore a secret grudge against the Rev. W. S. Green, the first climber to attempt Mt. Cook, who spent a night at an altitude higher than Williams himself had ever reached. I have met no man for whom the passage of time held less significance; nothing would cause him to hurry. Yet no one could call him slothful. He rose early but spent hours in preparation before leaving camp. Nothing perturbed him, and I have since thought that he would be the ideal companion in an air-raid shelter; but upon a mountain this leisurely philosophy had its disadvantages. The hours of daylight, often barely enough for a fast-moving party, were totally inadequate for him.

When we met in the Elcho valley, Williams had been examining the approaches to Mt. Ward for some weeks. He had found a route to the summit, but considered that a fourth member would be necessary if his party was to attempt the climb. Our own journey was nearly completed, and he invited one of us to accompany him. Johnson was debarded from climbing for a few days by a minor accident, so I agreed to go. Climbing with Williams would not lack novelty.

An easy march brought us to a small moraine-covered glacier at the head of the north Elcho, where we pitched our camp. The alarm summoned us to the climb soon after mid-
night; but when we left our tent the flush of dawn was already in the eastern sky. In my pack were two extra sweaters and several slabs of chocolate, insurance against my companion's reputation.

The glacier on which we had camped was enclosed by a horseshoe of precipices above which a hanging glacier led upwards to the peak. At one place a narrow tongue of the upper icefields linked downwards to the valley glacier, but it was too steep and too wracked by falling stones to be climbed. To reach Mt. Ward we had therefore to climb the precipitous rocks or to work round their flank. The latter would be the easier route; probably shorter in time, though longer in distance. Williams scorned it and led us to the foot of a crag which was perhaps seven hundred feet in height. The rock was more suited for a day's climbing in Wales than as the approach to a lengthy unknown ascent. But Williams was at his best on difficult rock, and he turned an unpleasant overhanging wall, the crux of this part of the climb, in fine style. My thighs, shoulder and head served in turn as footholds. When we reached the icefield it was already 11 A.M. and as yet we had completed barely a third of our climb; but this meant nothing to Williams. A leisurely ascent of the icefield, punctuated by frequent photographic interludes, brought us in late afternoon near the foot of the arête; we halted for lunch. A further half-hour was lost circumnavigating some crevasses, and the heat of the day was long past when we gained the first rocks of the summit ridge. That we would be be-nighted was now accepted, without comment, as natural.

We left our packs at the foot of the ridge, but doubting whether we should get back even to this point before dark, I slipped a couple of slabs of chocolate in my pocket, and tied an extra sweater round my waist. Evening was a memorable experience, but a gaggle of hogback clouds, harbingers of storm, disturbed my peace of mind though Williams made light of my fears. The climbing was not difficult but exhilaratingly exposed, and we arrived sedately on the lower summit of Mt. Ward at 7 P.M.—an hour by which all sensible men have returned from their day's toil. Across a rocky gash rose
the higher summit, blackly silhouetted before the setting sun. Farther off, flame-tipped storm clouds attacked the western ranges. Through cloud gaps we had fleeting glimpses of the coastal forest still aglow with sunset, and the sea greying into the distance; the passes sank one by one into the mist, and the clouds, increasing their speed with the gradient, rolled down into the Landsborough valley. To our north the great peaks La Perouse, Sefton, Tasman and Cook, stood in flat pastel tints against the watery sky. Already their outlines were dissolving into the night.

Eastward the shadow of the Southern Alps hastened evening on the Canterbury plains, which stretched to meet the far horizon except at one point where a narrow segment of the Pacific Ocean lay between land and sky. It was the first time that my vision had been able to span the South Island of New Zealand. From a lonely homestead in the nearer foothills the glimmer of a solitary light emphasized the naked space around us.

The conclusion of Williams's photography ended my meditations. It seemed wise to descend as far as possible while the light still held, and we hurried downwards, until darkness overtook us on a small ledge above one of the steeper parts of the ridge. Our lantern had been left in the safety of our camp five thousand feet below, and we could not venture farther.

Two of us wedged ourselves, one above the other, in a narrow cleft while the others crouched in a small corner. It was now the hour of dinner, and for the first time in this strange day our actions harmonized with those of normal beings. To augment my chocolate, Williams produced an unexpected raw onion and the feast was equally divided. Afterwards a gusty wind extinguished my few matches, denying the solace of a pipe.

The storm, apparently infected by our example, advanced with less than usual speed. Shortly before daylight rain commenced, freezing to the rocks as it fell, but we were able to regain the icefields before it became severe. In safety we returned to the valley; but the mountain did not permit us
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to escape altogether without punishment. Flooded rivers
delayed us for six hungry days and as I lay in the tent, thinking
of eggs and bacon and marmalade on toast, I heard in its fullest
details that story of Samuel Turner and the knife of which I
have mentioned but a fraction in this chapter.
Two years passed before we could return to the mountains. It was a grey interval clouded by tragedy. The companion of my first ventures in the Nelson hills had been killed upon the hills.

Much has been written of the dangers of mountaineering. Accidents fascinate the general public; they win headlines while successful exploits are usually unnoticed. The climber himself has a less morbid outlook; he knows that for every man injured there are hundreds who climb their lives through without mishap. Celebrated mountaineers have a habit of living to great age and then dying in their beds. Holiday motoring in England probably kills a larger percentage of its devotees. None the less danger is always present among mountains and in overcoming or avoiding it lies the art of mountaineering; overcoming the subjective dangers, the false step or the clumsily handled rope, and avoiding the objective ones, avalanche and storm. Only when these principles are disregarded through ignorance or recklessness do accidents become frequent.

No sport worthy of the name is without danger; mountaineering is no exception. It involves an element of risk, neither greater nor less than that in many other pursuits, and its presence gives vividness and piquancy to our enjoyment. Often the mountains are indulgent to our follies—every mountaineer can remember such occasions—but sometimes even the lesser hills are ruthless in their punishment. Sometimes, too, their victims have erred in innocence while those who knowingly ignore their laws escape unharmed.

My brother made no pretensions to mountaineering skill. Other interests attracted him more. But he enjoyed hills, especially when they were covered with winter snow. One day he joined a large party of whom several considered themselves experienced. They proposed to climb a peak of no great height. In summer it would have been an easy walk over grassy slopes but now snow lay deeply.
The weather was bad and to avoid the wind on a ridge crest they straggled upwards in a broad snow hollow. Rain had soaked the snow, robbing it of cohesion. It began to slide. Before the danger was realized the avalanche had gathered speed and the entire party was swept down into the depression. All but one were able to drag themselves, or be dragged by their friends, out of the snow debris. They retreated hurriedly and only when they were far on their homeward way did they realize that my brother had been left behind.

I have set down this story, not out of bitterness but because of the effect it had upon us. To Christopher Johnson and to me it pointed a single lesson—there could be no half measures in our mountaineering. Either we must climb seriously, giving to each aspect of our technique the fullest study, or we must abandon the sport. The second alternative was rejected as soon as mooted and we returned to the hills.

It was to be our last joint season, for I would soon be returning to England to continue my studies; so we made ambitious plans. There was no question where we would climb first: Mt. Jackson and its attendant peaks were still the focus of our ambition. Since our last visit, Williams and party had reached the high summit of Mt. Ward and regained their camp before nightfall, creating thereby a double record, but the other Elcho peaks were still untrodden.

I have always regretted that these peaks bore such dull names—Jackson, Ward, Barron and half a dozen more. Last century when the range was first surveyed from the distant plains, they were named in honour of senior members of the New Zealand Survey Department, perhaps by some junior seeking preference. Mountains, next to oceans, are of all features on the earth the most magnificent and the most permanent. To treat them as monuments for individuals—particularly individuals of no distinction—is never appropriate. Some personal names, it is true, do not jar upon the ear; for example, 'Everest', or 'Sefton' and 'La Perouse' in New Zealand, but they owe their suitability to accidental euphony, not to the identity of their almost forgotten patrons. From end to end the map of New Zealand is bespattered with the unlovely names of nonentities.
It would be easy to make a list of ugly-named towns—but it is with the names of mountains we are here concerned. Few languages can equal Maori for the beauty of its names—Waimakariri, Ruahine, Rimutaka, Tongariro and a thousand more, but only one peak in the central part of the Southern Alps is known by a Maori name, Maunga Ma, which is perhaps the most pleasing of the peak names. It is hard to see why more Maori names have not been given to the mountains, although admittedly some ingenuity would have been necessary. The Maoris were little interested in the Southern Alps; to them the high mountains were barren and unprofitable. They seldom ventured upon the snowfields, and the Aorangi, 'The Cloud Piercer', sometimes applied to Mt. Cook, seems more correctly a general term for the snowy ranges as a whole. None the less it is, I think, the most suitable name for the highest New Zealand peak. Another obvious example of the incongruous is the Franz Josef glacier. It is particularly inappropriate that this glacier, unexcelled for loveliness anywhere in the world, should bear the name of a foreign prince whose only connections with the country were that he lay in his yacht off the coast and presented the colony with some chamois, the progeny of which are now a serious pest. Would it not be more appropriate to name the glacier 'Waiho', after the river which drains it? There are many other Maori names which could well be revived, for instance Rakiura, the Maori name for Stewart Island.

Fifteen years ago the 'Honorary Geographic Board' was set up to select and approve new names. Personal names are discouraged, and the board has undoubtedly prevented many unpleasant additions to the maps; but I wish it were braver in replacing existing cacophony, even though for a few years some slight confusion might occur.

For our return to the Elcho valley we were a party of three: Christopher Johnson, Jim Dawson and myself. Our progress to the roadhead was more dignified than on our earlier visit, for Professor Dawson, our companion's father, risked the springs of his car to start us on our journey. The road had been improved slightly and our only mishap was when the draining
cock below the petrol tank was removed by the excessive 'camber', if that is the correct name for a ridge between deep ruts. Fortunately the cork of an 'Eno's' bottle would just fill the hole, and we salvaged enough petrol to carry us onwards.

We intended to spend two and a half weeks in the valley, and our packs weighed eighty to a hundred pounds. On our first march we found them unmanageably heavy so we divided them in half and spent the first three days of our holiday relaying our stores to the junction of the Elcho streams—the site for a camp we had chosen two years before. Perfect weather marched with us up the valley, so perfect that we feared it could not last, but when load-carrying was over the sun still rode an unclouded sky.

Two days later we made our first attempt to climb Mt. Jackson from a bivouac below Elcho pass, which lies midway between Mt. Jackson and Mt. Ward on the main watershed. At 2 A.M. our alarm watch sounded, and an hour later we strapped on our crampons to ascend a long snow couloir which led to the pass. Crampons are sets of steel spikes, eight or ten in number and two to three inches long, which can be strapped to climbing boots. They make it possible to walk on steep slopes of ice or hard snow without the labour of step-cutting. To me one of the most delightful of climbing sensations is to feel the spikes of my crampons biting crisply on a hard frozen slope at the beginning of a climb.

At dawn we reached the pass and turned southwards along the main watershed. Two minor summits stood between us and our goal, but we soon gained the nearer of them. Then the difficulties of our climb began. The ridge dwindled to a narrow razor-back of insecure rock. Overhanging towers, with deep gashes between forced us to cross steep and exposed faces, but for three hours Johnson led us onwards with cautious agility. Neither of us had before attempted climbing of such difficulty; I at any rate was far from confident. By modern standards of rock-climbing our route cannot have been really difficult—had it been so we should not have been able to continue—but the space below us was considerable and we could not 'trust' the rock as can climbers on the British hills.
MOUNTAIN PROSPECT

Large fragments which appeared secure often shuddered at our touch. At length, after negotiating a particularly awkward tower we found ourselves cut off from the main ridge by steep and holdless slabs. An unknown glacier lay a thousand feet below us. Beyond were other obstacles equally formidable and we realized that we had no hope of reaching Mt. Jackson by our present route.

Two days later we climbed through the forest behind our base camp towards the east ridge of Mt. Jackson. Originally we had rejected this more direct approach on account of its steepness, but we now found it less steep than we had expected. Our first attempt by this route failed on account of bad weather, and we returned to the valley expecting several days of inactivity. For once, however, the nor'-wester belied its reputation, and twenty-four hours later we were able to pitch our tent near the first snowfields. Early on the following morning heavy wet mist blanketed the mountain and we debated whether we should attempt the climb. In the end Johnson's optimism conquered my doubts and we left the tent towards dawn.

It was a raw and discouraging morning, and I climbed halfheartedly until suddenly, when we had been moving for perhaps twenty minutes, the damp greyness melted and in a few paces we entered a new and perfect world.

Our eyes, accustomed to visibility of but a few feet in the mist, were thrown momentarily from their focus and we halted. We were at the margin of a boundless ocean of mist on which the highest summits floated, frozen and silent, flushed with the last pale tints of dawn. The air was clearer and the sense of space greater than I had ever known and we stood close together, grateful for company, for we only in the vast silent chillness were living. Far below us, beneath the lambent cloud, were the green valleys and the plains where men dwelled, but from that world of life we now seemed infinitely removed, beyond sight or reaching.

The condition of the snow recalled us to more normal things. The clouds had kept the temperature above freezing point throughout the night, and the snow was still sodden
from the recent rain; it would become treacherous when the sun reached it. We climbed quickly towards the rocks of the summit ridge. Several insecure snow bridges delayed us, but we were within a few feet of the rocks when the sun topped the mountains across the valley.

It was nearly eight o’clock and we halted on the warming rocks. The morning was now perfect, without cloud or wind, and we spread our sodden boots and stockings to dry in the warm sunshine. The hiss of small avalanches on the slopes below proved the wisdom of our haste.

We had reached the ridge close to the summit of a minor peak, but Mt. Jackson now towered close above us across a rocky gash. The rock was schist, laminated like slate, with the strata steeply tilted towards the west in a great sweep of holdless slabs. On the east—the side from which we had approached—the rocks were riven at right angles to the strata, forming a precipice which was sometimes slightly overhanging. We had been fortunate to reach the ridge at a point where a snow tongue lapped upwards, broaching these defences.

Our route lay downwards along a narrow ridge. We moved carefully. Plates of rock, perhaps a foot in area and barely an inch thick, sometimes sheered off at our touch and slid down the slabs. At first we were able to use small footholds on the side of the ridge with our hands gripping the crest, but, as we descended, the ridge dwindled to a knife-edge and we climbed à cheval with one leg on either side, and our knees pressed tightly against the rock. Thus we progressed until an overhanging tooth barred the way. Had the defences of Mt. Jackson again defeated us? The tooth leant rakishly towards us and outwards over the eastern face. To the west the unrelenting slabs continued, but they now held our only hope. Johnson moved slowly forwards out of our sight. The seconds seemed minutes until he called us onwards. He had found a series of small ice-choked cracks which brought us to the foot of the summit cone of Mt. Jackson. The problems of our climb were, however, not yet over. Immediately above us was an overhanging step of rock from ten to twenty feet in height. Below was a steep slab which drew the eye irresistibly downwards to
the Landsborough river nearly five thousand feet below. It was an exposed and awkward situation, but after I had climbed as far as I could Johnson passed nimbly over me using my shoulders as footholds. A few feet of delicate climbing then brought him to an easier slope where, after much grunting and hauling on the rope, we others joined him. The last of the mountain's defences were behind us, and within half an hour we stood upon the summit.

It was a languidly beautiful afternoon. Opalescent haze brimmed the valleys, and fleecy wisps of cloud clung lazily to the peaks. The scene suited our mood. We had reached our goal and we felt suddenly tired, wishing only to munch chocolate or smoke our leisurely pipes. Naturally we overestimated the difficulties we had overcome; in reality Jackson is an easy peak, but we then had no standards for comparison; it was the first real mountain that we climbed unaided. For two years it had been the centre of our plans, and it was natural that our satisfaction should be intense upon the summit. But it was a tranquil not flamboyant jubilation. Few peaks since have given me such a deep contentment.

It was nearly dark when we regained our bivouac and next morning the sun was high in the sky before we wakened. In our sloth the keas had found excellent sport. As there was no room in the tent for our cooking-pots and boots we had covered them with stones, but our camouflage was inadequate. Several boots and all our cooking-pots had been rolled down the mountainside into a gully a hundred feet or more below us. The keas mocked our discomfort from a rocky ledge safely out of range. Johnson's boots alone had been left untouched, and Dawson and I explained as nicely as we could that but for our lack of footwear we would gladly have helped him gather in our possessions.

At our leisure we descended to the base camp, and there devoted ourselves for a time to domestic problems. There were clothes to wash and large meals to cook. Stockings were the only articles for which careful washing was deemed necessary, and our method was simple and effective. We put a stone four or five inches in diameter in the top of each stocking and
Christopher Johnson during descent of Mount Jackson: Landsborough Valley and Hooker Range beyond
Mount Cook, at sunset, from the Hermitage
dropped it into the stream. An hour later we hung it out to dry.

The preparation of large meals was more important, also more difficult. We could not 'live on the country', for though deer were common, stalking them would have required more skill and more time than was at our disposal; we therefore carried all our food on our backs. By dietetic standards our rations were ample. Each day we consumed over two pounds weight of food which contained over 3,500 calories and adequate vitamins; but youthful appetites are little impressed by such data and we always felt more or less hungry.

However early we planned to leave camp in the morning, one of us rose in time to cook a breakfast of oatmeal porridge, fried bacon and cocoa rich with dried milk and sugar. On the hills we carried ship's biscuits and sardines or cheese for our main meals, chocolate, raisins and peanuts for casual halts. Ship's biscuits haunt my memories of the Southern Alps. I used to think they were invented to be the final agony of shipwrecked mariners, a sort of nautical purgatory. The biscuits were about three-quarters of an inch thick. In hardness they resembled plaster-board; their taste was ill-defined and unattractive, but when our supplies of bread were finished they proved invaluable. A half biscuit would carry us through a meal, serving first as a plate for sardines and then for cheese and finally perhaps for jam; but, whatever we spread on them, we ate dry biscuit in the end. As soon as we regained camp in the evening we brewed tea and then prepared the evening meal—soup of the Symington type, then boiled rice, with bully beef or pemmican followed by more rice and stewed dried fruit.

On the trip when we climbed Mt. Jackson we forgot our salt, and saltless rice is the one food duller than rice with salt. However, we suffered no ill effects from its lack. Presumably our bacon, butter and meat contained enough. Almost the only luxury in our base camp was the large fruit cake which my mother always concocted for us. I never could understand how so much fruit was held together by so little cake, and its like I have not tasted elsewhere.

It was seldom that we were idle on a fine day without feeling
that we had lost a valuable opportunity; but after our ascent of Jackson we spent a day and a half at our base camp with easy consciences. We lay among the trees beside the stream watching our clothes being washed, waiting for the next meal, writing our diaries or reading. We had limited ourselves to one book each and length combined with lightness largely governed our choice. Chapman's translation of the Odyssey, an India paper edition, filled these requirements admirably. Unfortunately I had just become really interested in it when it met an untimely end in a stream. Since then it has been one of the books I always intend to read.

We had set ourselves the task of climbing every peak on the Main Divide within reach of the Elcho valley—eleven in all if one included a number of small summits to which the map gave the dignity of separate names. All were unclimbed at the time of our first visit. So far in our two journeys we had reached eight of these peaks and, when we climbed Mt. Barron two days after Mt. Jackson, only two remained—Mt. Trent at the southern extremity of the zone and the high summit of Mt. Ward in the north. We had time for only one more climb, and we debated which to attempt. Mt. Trent was, next to Ward and Jackson, the highest of the Elcho summits, but unlike them it was a barren and forbidding rock massif. Preparing to climb on ice we returned towards Mt. Ward.

The most depressing part of a climbing day is its beginning—from the moment when the alarm clock sounds until one leaves camp. Matches contrive to become lost, the primus stove burns the fingers, the porridge is nearly upset and one hunts everywhere for a missing puttee or glove. Small clouds seem large, knees are weak and thoughts of comfortable beds and breakfast at nine o'clock torment the mind. Different though equally annoying circumstances harass the climber who sets out from a hotel. Life begins to be tolerable when the crisp night air has driven sleep from the eyes and the rhythm of movement has warmed the blood. Thereafter, if one is happily constituted, the tempo of living rises steadily, till at dawn its level surpasses computation, and not until the climb is over does it sink to the lower plane of normal living.
We always tried to end these loathsome preliminaries as speedily as possible. Each minute gained was worth two later in the day, and the night before a climb we made careful preparations. The main responsibility lay with Johnson, who cooked breakfast. An hour after the sounding of the alarm, we were usually ready to set out; but on the morning of our ascent of Mt. Ward we left our bivouac in forty-five minutes. It pleased us mightily.

Dawn was still two hours away but we could move rapidly for our way lay by Elcho pass which we already knew. The snow broke crisp and clean beneath our crampons, and before daylight we reached the pass and turned northwards along the main watershed. Soon the sun sought out the highest summits, and we climbed to meet it through the clear air, while the shadows of night still enwrapped the valleys. To the farthest horizon there was no trace of cloud and dawn came rapidly.

Easy climbing followed, to the south ridge of Ward, a sweeping shelf of ice from one side of which great seracs fell occasionally to the deep cwm of the North Elcho. Above the precipice we halted for that ritual of each climbing day, called second breakfast. It was nearly eight o'clock. Already we had glimpses of the rolling brown hills, of the Canterbury sheep country and the farther valleys. A long uprising ice-slope, ideal for crampon climbing, brought us to the excitement of a crevasse overtopped by a small out-jutting lip. A few minutes step-kicking near the limit of outward balance remains vivid in memory, also the wooden peg—my nearest approach yet to a piton—which I drove into the snow for greater security. But it was a short check and before 10 A.M. we reached the summit of Mt. Ward, enjoying the warm stillness of a perfect morning. The day was young, heat haze had as yet scarcely grown upon the peaks, and before further effort we relaxed in enjoyment of our surroundings.

Below us was the lower summit of Mt. Ward from which two years before I had watched the sun set in an ominous sky. Farther off the eye wandered at random over the ranges. Almost all the great peaks were in view, from Mt. Aspiring over a hundred miles to the south to mountains far north of
Mt. Cook, from the Tasman Sea to the Pacific Ocean. It was the most extensive panorama that I saw in New Zealand, but I can recollect many which were more pleasing. The most satisfying mountain views are those with height as well as depth, and the view from the summit of a mountain on a clear day—especially if it be the highest for several miles—is topographic rather than aesthetic in its appeal.

Originally we had intended to descend the eastern arête of Mt. Ward, and I had looked forward to showing my companions the ledge where Williams and I dined on chocolate and a raw onion. Now we became more ambitious, for we had reached the summit much sooner than we had expected. Of the three main ridges of Mt. Ward only one, which fell towards the north, had not been climbed, and we now chose it as the route for our descent. From Mt. Jackson we had seen that the upper part was of no great difficulty, but we did not know what lay below.

For a few hundred feet we scrambled down easy rocks but then the ridge fell steeply and our way lay cross the insecure ledges of a steep face. There were abundant holds but danger lay in the extreme looseness of the rock and the debris which filled even the smallest cracks. Past our heels we saw the crevasses of a glacier far below. None of us felt very secure and I was glad that it was Johnson, not myself, who was safeguarding our descent at the tail of the rope.

Late in the afternoon we came to the grateful levelness of snowfield on a broad pass. Beyond rose a quartet of fine virgin peaks, tantalizingly close, but beyond our present reach; and we turned southwards to a long easy march back to Elcho pass. Through the sunset we glissaded downwards to our bivouac, regretfully, for our climbing in the Elcho was ended.
The Hermitage has been described as the premier mountain resort of the southern hemisphere. This may or may not be true, but there is certainly no other hotel in New Zealand so well placed for the mountaineer or skier. With but one exception all the peaks over ten thousand feet in height are nearer to it than to any other centre. The Tasman glacier—one of the largest in temperate regions excepting only those in Asia—is barely a dozen miles away while the Mueller and Hooker glaciers are considerably closer.

From the front door is one of the grandest views in the Southern Alps—the eastern face of Mt. Sefton, a glittering wall of tumbled ice nearly six thousand feet high. Then, too, there is the face of Mt. Cook which, if you have once seen it at sunset, you are not likely ever to forget.

Here Johnson and I came a week after our ascent of Mt. Ward, with Archie Scott of Christchurch. For several years he had been a close friend of ours but hitherto we had not been able to arrange a joint climbing holiday. He was several years our senior but the three of us were perhaps the most balanced and harmonious trio to which I have belonged. We were again bound for the Landsborough country, but this time we would approach it by Fyfe’s pass from the Mueller glacier which lies a few miles beyond the Hermitage.

The Hermitage, a large white-stuccoed building, was Government property but leased to a private company. The control of a large area of the surrounding country was included in the lease, and the company also controlled the transport service from Timaru on the east coast to the Hermitage and thence southwards to the cold lakes. Thus there was a virtual monopoly of the tourist services—an unusual situation in a country noted for the development of its public services.

When we arrived at the Hermitage afternoon tea was being served on small tables in the entrance lounge. Johnson and I were in no condition to dally with a polite tea, and we ravaged
such plates of small sandwiches and cakes as came within our reach. If eyebrows were raised at our behaviour or sensitive nostrils twitched at our clothing, we did not notice. Christmas was three days away. By then we would again be in our small tent among the mountains and this was our one chance for Christmas feasting. There was no time to lose. Before dinner we bathed and dressed, but the veneer of civilization went no deeper than our jackets, and I doubt if the Hermitage ever before gave such good value for its tariff. We called for second helpings of all but one course, thereby astonishing a Frenchman at the next table.

Dinner over, we repaired to the friendlier quarters of the guides and spent half the night discussing our plans with Vic Williams, the head guide. He was an outstanding personality, devoted to the hills and always eager to give all the aid in his power to guideless climbers. There have been few like him in New Zealand. Professional guides have contributed comparatively little to the development of New Zealand mountaineering, and at the time of which I write only three men—the Graham brothers, to whom I shall refer later, and Williams—had prestige in any way comparable with that of the great guides of Switzerland.

Expense is one reason why guides have played so small a part in the development of New Zealand mountaineering. Guide fees are higher and the resources of the average climber lower than in Europe, but there is, I think, a still more important reason—the self-reliance of the New Zealand climber. He believes that the fullest enjoyment of the hills can only be obtained by relying on his own initiative and skill.

Our day at the Hermitage passed quickly. We breakfasted as enthusiastically as we had dined; lunch followed miraculously quickly and then, once again in our climbing clothes, we trudged up the Mueller glacier under the afternoon sun.

We had planned a journey lasting three weeks, and to lighten our loads for the first two days we had engaged two young guides to act as porters. It was the only time in New Zealand that I knew this luxury, but our own rucksacks seemed as heavy as ever. Perhaps our recent feasting was to blame and
my afternoon of purgatory on the moraine of the Mueller had its moral.

We spent the night at Mueller hut some eight miles from the Hermitage. It was a primitive corrugated-iron shack badly needing repair and disgustedly filthy, but the hut fees were none the less seven or eight times as great as those in Switzerland.

Before midnight violent gastronomic convulsions seized me, the result of too rich cooking at the Hermitage or too dirty cooking at the hut. In the chilly blackness of the night my retching body found melancholy company in the roar of avalanches on Mt. Sefton across the glacier, and at 3 A.M. when we left the hut I was so dull and listless that I scarcely noticed the chill of a glacier pool in which I foundered to the waist.

Dawn as ever brought rising spirits, and when we reached Fyfe's pass at the head of the glacier normal enthusiasm and appetite had alike returned. From the pass a long sweep of slabby rock, hemmed in by crags, led down to the upper Landsborough, three or four thousand feet below. It is difficult for a climber, laden with a heavy pack, to descend gracefully on slabs of moderate steepness—certainly we failed to do so. Like drunken spiders we often clung 'spread-eagled' to the rock, attempting thus to gain the greater frictional hold. Our clothing suffered.

Shortly before sunset we crossed the Landsborough river a few hundred yards below its parent glacier, and made our camp on a grassy terrace. Half a dozen miles down the valley was Mt. Fettes, 8,092 feet high, the northernmost summit of the Hooker range, and as yet unclimbed. Our interest in it had been aroused two years before when we were making plans for our first visit to the Landsborough. Johnson, who was a Fettesian, had noticed the name upon the map. His curiosity was naturally aroused and we found that the peak had been named by Charles Douglas, the companion of Harper's early explorations, in honour of his uncle, the founder of Fettes College. Since then we had seen Mt. Fettes many times, a finely isolated pyramid flanked by great precipices and glaciers.
From Mt. Ward we had made a detailed though distant study of the mountain, and the first object of our present trip was to climb it.

We bivouacked near the upper limit of the forest—a pleasant situation, as it then seemed, with a large overhanging rock to shelter us. Towards sunset warning banners of bad weather streamed in the eastern sky and as night wore on ominous cloud-banks gathered at the head of the valley. It seemed unlikely that we could climb the mountain before the storm broke but at dawn we started in a race against time.

Daylight hastened the onset of the storm, and after we had been climbing for three hours, fierce squalls of wind and driving rain smote the ridge and we hurried back to our bivouac. I think it was Christmas Day. Certainly it was one of the dreariest days I can remember. The storm beat straight in upon us and a fly-sheet which we pitched against the rock merely turned large raindrops into fine spray. Trickles of water fell onto our sleeping-bags and the puddles in which we lay grew larger as the day wore on.

The clouds had closed down, reducing visibility to a few feet. It was improbable that we could find our way back to our former camp where we had left our tent, so we perforce remained where we were. Our only chance of comfort was to lie still, so that water already warmed by our bodies would not be replaced by a new and colder flood. Conversation flagged. A pipe was the only consolation, and the main preoccupation of Johnson and myself was to keep matches and tobacco dry. Archie Scott, a non-smoker, was without occupation.

Twenty-four hours later the storm abated and we regained the shelter of our tent. It was only seven feet long, nearly five feet wide and four high, but it seemed luxurious after our bivouac, and for the next five days we lay side by side within it while the storm raged in the valley. Time passed with slow negativeness, neither unpleasant nor enjoyable. Fitfully we read or talked or slumbered. Two frugal meals were the main punctuations of each day. The rain had upset our plans, making it necessary to husband food, and conversation turned as ever
upon the meals we would eat when the weather cleared. The keas, undeterred by the rain, continually provoked us. At dawn a few enthusiasts would alight on the ridge of our tent and scream ‘Ki-au, ki-au’, the sound from which they take their name, until all the keas in the district, and ourselves, had been suitably roused. Often we had to repair holes torn in the fly-sheet by their sharp beaks. We tried without success to kill or drive them away by throwing stones, but they enjoyed the sport much more than we did, and returned for more long after we had tired. Our plates and billy-cans near the tent door delighted them, and Johnson turned this to our advantage, encouraging them closer and closer, until the most inquisitive was added quickly to our larder by the nimbleness of Johnson’s gloved hands. Next morning his brethren pecked cheerfully at his feathers.

One of the redeeming features of South Westland weather is that the sky usually clears rapidly when a storm is at last over. Noon of the fifth day encouraged no optimism; at one o’clock the sky was slightly lighter but no more promising than it had been several times before; then suddenly faint blue patches appeared, dazzling spear-shafts of sunlight smote the valley, and within a couple of hours a perfect afternoon was cheering us on our way back to Mt. Fettes. After the days of storm, sunshine and the living colours of the mountains gave delight so great that it seemed we had never before truly seen them. The free exercise of our own limbs was in itself high pleasure.

Evening was calm and peaceful and on the following morning we set out under a crisp starlit sky. The route was less difficult than we had expected, though the last part was exhilaratingly exposed. Below us the mountain fell sheerly towards the Fettes glacier, nearly four thousand feet below. Wisps of tattered cloud which drifted across the mountain, obscuring and then again revealing the distant peaks, exaggerated our sense of space and isolation. Towards noon when we approached the summit a wandering cloud wrapped itself firmly round the peak, and though we remained on the summit an hour longer than we had intended we saw nothing of the
exceptional view which we believed the peak commanded.

For the first thousand feet of the descent thick cloud obscured our way. We could not see each other when more than a few feet apart, and the snow on which we stood was indistinguishable from the cloud. Only by feeling with our ice-axes could we tell the steepness of the slope and we moved with slow caution. At each pace I felt forward with my axe, half expecting to find myself at the brink of a great crevasse—though I knew none existed—and each time my axe touched the snow I was surprised, for it seemed that a depthless mist lay before me. At length a slight breeze stirred the mist and we were again in sunlight, on a small and graceful glacier, which we named 'Zircon', for euphony with the neighbouring Zora glacier.

Weeks later when our mountain wanderings were over we heard that a trio of women, led by the head guide from the Fox glacier, had been only a short distance away when we climbed Mt. Fettes. They approached the mountains from the west coast and reached the summit two days after our party. We had heard nothing of their plans, and of ours they knew no definite details until they saw our tracks fresh upon the snow. It was an occasion when one could not feel penitent for being in front of a lady but I have often regretted that our surprised parties did not come face to face, suddenly, through the mist.

Late in the evening we returned to our base camp and made slight celebration with a belated Christmas pudding, complete with brandy sauce. Johnson produced a topical menu and we lit up the tent with all our candles.

The first part of our trip was now completed, and turning our backs on the Landsborough we ascended the McKerrow glacier towards Douglas pass, on the watershed between the Twain and Landsborough valleys. Ahead of us was some of the most remarkable country in the Southern Alps. Here we planned to spend the remainder of our holiday. Mt. Sefton, 10,359 feet high, stands some two miles north-east of Douglas pass upon the Main Divide, and from its summit a subsidiary range, the 'Sierras', runs westward maintaining for several
miles the altitude of seven to eight thousand feet. On the north of the Sierras is the Copland valley, where lies a well-known tourist track; to the south is the Twain, which passes through a gorge so narrow and precipitous that up to that time no one had yet succeeded in penetrating it. The Twain is fed by the Douglas glacier, the upper slopes of which lie in part on Mt. Sefton, in part athwart the Sierras. The icefields of its névé or upper portion are very extensive, but the lower part of the glacier is even more noteworthy. In geological parlance it is a reconstructed glacier—that is to say, its trunk is nowhere in contact with the upper icefields. From the summit of Mt. Sefton broken icefields sweep downwards for some five thousand feet to the crest of a great precipice down which avalanches thunder, in unending cannonade, to feed the valley glacier a thousand feet below. The volume of the avalanches can be judged from the fact that they are the source of a glacier six miles long and three-quarters of a mile wide which lies only three thousand feet above sea level. By comparison with Asiatic mountains these dimensions are trivial. In the Karakoram a precipice two thousand feet high seems small, but the impression of space given by any vertical distance is relative. It varies between different ranges, dependent on atmosphere and shape. I can remember evenings when the face of Snowdon above Glaslynn gave me a feeling of immensity equalling a great alpine peak. In scale the Southern Alps are intermediate between the Himalayas and the Welsh hills, and my first glimpse of the south-west face of Mt. Sefton, towards sunset from Douglas pass, was one of the grandest sights that I have ever seen.

Only three parties before us had descended to the glacier—Fyfe and Graham in 1891, Harper in 1895, and McIntosh Bell in 1907; no one had crossed the Sierras to the Copland valley. To attempt this was our present purpose.

We reached Douglas pass in the calm of a perfect evening. Behind us every ridge and summit of the Landsborough country stood clearly outlined against a pale sky. Before us the Twain valley was abrim with mist; but in the half light, the veil parted and gave us a brief glimpse of the icefields of the
Douglas glacier and Mt. Sefton with the last glow of sunset still warm upon its crest. Below us the great precipices and the lower glacier were scarcely distinguishable from the murk. Later, as we spread out our sleeping-bags upon the pass, the mists dispersed and we saw the whole scene faintly in the light of stars.

Before dawn we breakfasted and stumbled up the easy slopes of snow and rock which led to Gladiator—a small summit commanding a fine view of the Sierras of which Harper had made the first ascent nearly fifty years before. The first light of day showed clouds rising in the Twain valley and as the planning of our onward route hung on our having a clear view we raced upwards striving to outdistance the cloud. With bursting lungs we reached the summit with just sufficient time to make a shaky sketch before the cloud engulfed us. Was this mere morning mist or the advance guard of another storm? It was too early yet to tell, and we waited gloomily, fearing the worst, but seeing hope in each movement of the mist.

An hour later the growing warmth of day dissolved the cloud and a scene grander than any I had before seen lay before us. Jagged cliffs fell to the moraine of the Douglas glacier four thousand feet below and so close under us that it seemed a stone tossed over the cliff would reach it in a single bound. Beyond towered Mt. Sefton with avalanches in continuous sequence plunging downwards from its slopes. Their thunder subdued by distance came faintly to our ears. Carefully we studied the icefields and made our plans.

*Joie de vivre* then led Johnson and me to race along the ridge towards a small virgin peak half a mile south of Gladiator, leaving Archie Scott, more economical of energy, enjoying the sunlight. Then we strapped on our loads and slithered down dank snowgrass slopes in a sunless re-entrant to the Twain valley and the Douglas glacier.

The precipice which separates the névé of the Douglas glacier from its trunk made it impossible for us to ascend immediately onto the Sierras. The route we had selected from Gladiator led us down the Twain valley, a short distance beyond the terminal face of the Douglas glacier, and then
diagonally upwards to the Wicks' glacier, on which we could climb to the altitude of seven thousand feet. But we should still not have gained the crest of the Sierras; to get there it would be necessary to cross two passes and the intervening névé of the Horace Walker glacier. For nine or ten miles we would be travelling on broken icefields, but if the visibility was good we expected little difficulty. Route finding would, however, be complicated in bad weather. It was impossible to lay an accurate compass course, and our best safeguard was to note the general trend of the crevasse lines, hoping with this aid to find the various passes if visibility became poor. Thus, as so often in New Zealand, success depended on the whim of the clouds rather than on our own skill.

During the afternoon we marched down the Douglas moraine. Scarcely ever did the clear ice break through its drab surface. I have never seen larger glacier-borne rocks—one which I photographed would have nearly filled the Albert Hall—but rocks of more normal size were packed between the giant boulders, and we were able to make good progress. An interesting feature of the glacier was a lake, over half a mile long, below its terminal face. Neither Harper nor McIntosh Bell had described it; the glacier had receded half a mile since their visits and the hollow left by the shrinking ice was now filled with water. Thus on a small scale we saw the birth of a lake similar to Wakatipu, Pukaki and the other large sheets of water which now fill ancient glacier beds. The neighbouring Horace Walker glacier showed a similar effect. Harper and I both photographed it from the same spot, and the two photographs, the one taken forty years after the other, are striking in comparison. They were published in the New Zealand Alpine Journal, vol. 6 (1935), and the Transactions, Royal Society of New Zealand, vol. 66 (1936).

Glacial retreat is general in this part of the Southern Alps, and earlier in our journey we found evidence of similar

1 The names 'Wicks' and 'Horace Walker' were tributes by A. P. Harper to prominent members of the Alpine Club who encouraged the New Zealand Alpine Club in its early years. Other Alpine fathers he commemorated elsewhere in the ranges.
recession in the Fettes and McKerrow glaciers. However, there is no reason to fear that the ice-climbing will deteriorate appreciably in our time or in the lives of our children.

From the terminal lake of the Douglas we bore upwards on the northern flank of the valley, and camped on a small grassy alp. As ever, before a climb, we scanned the sky for signs of gathering storm. Tonight we were particularly fearful of bad weather, for our food stocks were low and delay might place us in a perilous state. By sunset we knew that a nor'-wester was approaching rapidly. There was no mistaking the danger signs in the sky. Would it break before we had crossed the Sierras? As night descended the rising wind snatched at the tent and we held earnest council. Bad weather might delay us, if we returned by Douglas and Fyfe's passes, as much as if we adhered to our plans. We therefore decided that, unless the storm were severe at dawn, we would attempt to cross the range.

At 6 A.M. the weather was still undecided: there was a slight drizzle and cloud hung greely in the valley. We started up the mountain. The clouds thickened until we could see barely a dozen yards; but we knew we were on the correct line of ascent, for deviation to the right would bring us to the foot of steep cliffs, while on the left the brink of a considerable precipice would, so we hoped, arrest us.

Climbing became more difficult as we gained height. For the first fifteen hundred feet we ascended grassy terraces; but later our route lay up a series of narrow rock chimneys, in which our bulging rucksacks sometimes became wedged, and it was necessary to hoist them on the rope. When we were thus engaged the storm broke. Rain streamed down in torrents and we were soaked to the skin before we could put on our storm clothing.

Soon the gradient became easier and we gained the Wicks glacier at what seemed to be the correct point. The ferocity of the storm increased to blizzard pitch; but it was not until we reached the crest of the range that we felt its full force. Rain had now given place to snow and hail, which blew upwards, defiant of gravity, stinging our faces. It was a day of record
storm; rainfall ranging from seven to fifteen inches was recorded in the valleys.

Memory of the next eight hours is blurred. Sudden gusts tore us from our feet, throwing us on our faces. Visibility never exceeded a few yards. It was essential to remain close to the crest for the murk below hid a maze of tumbling seracs, and once entangled therein we should have slender chance of finding our way onward. In my anxiety to avoid this danger, I led the party to a small virgin summit later named Blizzard peak, and some hours later we visited another summit in similar fashion. Occasionally we halted in the shelter of crevasses to munch sodden chocolate.

Prolonged rest was impossible and for the first time I felt that detached indifference towards my own actions which is engendered by exhaustion: mind and body were severed, they became separate entities, disowning mutual responsibility. My mind-self felt that vague pity we have for slight acquaintances gravely ill as it watched my toiling body plodding on, endeavouring to keep its bearings through the buffetings of the storm. Mind was at leisure; I remember thinking of my home, of leisurely meals, of a flower garden in summer; but the body-self was keyed up to the immediate task, oblivious of all things save the problem of our route. These feelings I record because, until that day on the Sierras, I had regarded as imaginative fancies descriptions of similar experiences told by others.

As afternoon wore on we felt we should be nearing the final pass by which we would escape from the grey glacier blindness to the Copland valley. It could not now be far away, and to check our position we glanced at our barometer. It read 8,000 feet, or over a thousand feet higher than we expected, for the map showed no altitudes above seven thousand feet until far beyond the pass we were seeking. Had we strayed on to the flanks of Mt. Sefton? If so our state was precarious; we would be menaced by seracs lurking above us in the mist. Even if we escaped this danger, it would be almost impossible to find a route off the glacier until the weather cleared; a night in our sodden sleeping-bags upon the glacier was a most disquieting prospect. Fortunately we ignored the barometer and
continued onwards. Later we found a simple explanation of its behaviour; the map was in error, understating heights by nearly fifteen hundred feet.

Eventually we found a passage over the ridge and crossed gratefully. It was not the pass that we were seeking; our sole wish was to gain the shelter of the Copland valley which we knew must lie below. When we had descended a few hundred feet the mist thinned and we picked up our bearings in an unusual and dramatic manner. A small mound of ice fragments caught our notice on the smooth ice-slope where our route lay. No falling stone could have caused it, neither could deer or chamois. We paused to investigate. The ice fragments were partially melted and frozen together; surely they had been cut with an ice-axe. A party had attempted to climb Mt. Sefton three weeks previously; so far as we knew they were the only climbers who had been in the district. Had we stumbled onto their route from the Sefton bivouac? With an ice-axe we cleared away the ice chips to see what lay beneath. Yes. A climber had halted here, probably soon after breakfast. So we found our way, thanks to that delicate instinct which deters mountaineers from soiling even the least frequented snowfields.

Five or six hundred feet below, near the tree-line, we came to the Sefton bivouac, a cave which is used by parties climbing the western ridge of Mt. Sefton. We had arranged for porters from the Hermitage to take thither sufficient food for us to climb the mountain before descending to the valley. Only easy snowfields now separated us from this haven. Tension relaxed, and with its going our tiredness surged to the surface, but thoughts of our varied provisions cheered us across the last dismal snowfields.

At 6 P.M. we threw off our packs beside the bivouac, and with our last ounce of energy sought for our stores; but all we found was a half-empty bottle of kerosene. The porters had failed us. Nothing, however, seemed to matter very much; we had reached shelter. We were too tired to eat the little food we had or to sleep. It was bliss to lie in our sodden sleeping-bags within the dripping cave, and we remained thus until the following afternoon.
In the valley three thousand feet below was Welcome Flat hut on the Copland track, and with this as our goal we set out, after consuming our last food. The rain had ceased. It seemed that our troubles were nearly over, but soon this brightening prospect was doubly dashed. The storm returned, and we were unable to find the track downwards through the forest. Apparently it was completely overgrown, and we began to make our own way. Slippery moss-covered rocks and tangled lianas delayed us, and we stumbled over fallen trees. Our sodden packs, doubled in weight by water, threw us out of balance and luxuriant ferns hid pitfalls into which we stumbled. Half-way through the march Johnson sprained his ankle severely. It was not easy to aid a lame man and speed was still further reduced.

Shortly before sunset we came out of the forest into a narrow valley which throbbed with the flood-waters of a mountain torrent. One by one we struggled through the stream, holding ourselves against the fierce current with our climbing rope. Our packs were heavy with water, but they would still float and we towed them through the water.

At last we had reached the open flats of the Copland valley. Light was failing but a clear track lay ahead. My mind again began to play tricks: I saw a hut among the trees, smoke coils unwinding from its chimney, but as we drew nearer a laggard wisp of cloud and a dead tree dispelled my fancy. I heard the voices of men cheerfully talking, but got no answer to my hail, for the high-pitched chatter of a small stream, against the background river roar, had deceived my ears. Then when night lay heavily on the valley we reached the hut.

It was delightful to cast off our sodden clothes and bathe in the warm mud of a hot spring which is the great attraction of Welcome Flat. As we lay there the rain ceased and a few faint stars appeared.

Later when we tumbled into bed we discovered the second feature for which this place is noted—the mosquito. It does not carry malaria but its bite is much more painful than that of any tropical species which has sampled my body. We had no mosquito nets, but we were so tired that we sank quickly into sleep, leaving the mosquitoes to undisturbed feasting.
We lay in the sunlight outside Welcome Flat hut. It was almost noon but we had only now dragged ourselves from our beds. The soft air caressed our limbs. Sunlight and life filled the valley—the life of the forest and the tumbling waters, of the insects in the grass and the birds in the forest trees. In front of us the flats led upwards to the steep flanks of the enclosing hills. We could see the route by which we had come from the snowfields above the Sefton bivouac to the river, but now sun-spangles flashed upon the snow, and the living green of the hill forest, only less luxuriant than that on the valley behind us, was iridescent in the sunlight. Surely it was not by this way that we had come through the storm?

The day grew warmer. We moved into the shade. From the hut we brought some scraps of food and the damp wreckage of our tobacco. Slowly, for we had the day before us, we discussed our situation. Archie Scott’s legs showed the swollen early stages of frostbite. Johnson had been able to sleep little with his sprained ankle. Without assistance neither of them would be able to move for several days. Even if our stores were now to arrive it was out of the question for us to attempt to climb Mt. Sefton. We would not even be able to return to the Hermitage across the easy Copland pass.

Fortunately a bridle-track led down the river to Scott’s farm, a dozen miles away on the main West Coast track. We decided that I should go there on the following morning and arrange transport for my companions.

At dawn I left the hut and walked down the Copland valley through the cool forest. In the rare stillness of that perfect morning it revealed a perfection of beauty unequalled by the forests I have since seen in other lands. Tropical growth is more luxuriant and botanically more diverse, but to the untrained eye there is little difference between many of the tropical species. By contrast, the New Zealand bush masks
its smaller flora with a striking variety of growth forms. There are tall trees and shrubs, creepers and epiphytes, and above all ferns, from delicate ‘filmy ferns’ a few inches high to giant trees with fronds exceeding fifteen feet in length. And there is a moist fragrance in the bush; it is clear and cool and wholesome in a way no tropical forest can ever be. But the real glory of the bush is the crimson rata (Metrosideros lucida), which begins its life perched upon large trees and gradually strangles them, to become itself a forest giant. Its flowers, now in full bloom in myriads, filled the forest canopy and the sombre green of the normal foliage emphasized the vividness of its colour, in the same way as a dark velvet background heightens the richest tints of jewels.

Scott’s farm served the dual purpose of homestead and accommodation house, and only differed from other back-block homesteads in possessing a few extra bedrooms for travellers. Mr. Scott and his sons were starting some belated agricultural operation when I arrived, but they soon saddled their horses and started up the valley.

Because of the frequent recurrence of the name ‘Scott’ it should be explained that there was no family connection between the Scotts of Scott’s farm, Archie Scott and myself. On the Sierras there is a Scott’s peak, and Scott’s creek is a tributary of the Copland. Both take their names from the Scotts of Scott’s farm.

A single-line telephone, ancient but just audible, linked the West Coast settlements, and soon I was shouting down the line to Captain Mercer, who maintained a pioneer air service on the coast. I was lucky to catch him. He had just arrived for breakfast at the Waiho hotel, and after a preliminary description of the meal I had interrupted, he agreed to land his plane next morning on the bed of the Karangarua river and pick up my two companions. As a final gesture he offered to drop me a newspaper at tea-time.

Mercer made the West Coast air-minded. The mails came by plane, and by plane the settlers travelled for their occasional visits to the towns; if sickness overtook them, they reached hospital in a few hours instead of after many days on horseback.
MOUNTAIN PROSPECT

as in earlier times. Their isolation had gone but the simple hardihood of their lives remained.

After my conversation with Mercer I joined Mrs. Scott in her kitchen. She was baking, and let me sample freely her buns and cakes as they came from the oven. I stayed in the kitchen, which served also as a dining-room, for the greater part of the day. At four o’clock the roar of Mercer’s plane close above the trees roused us. He had kept his promise and a sheaf of newspapers floated down. They held my attention, until in the last light of day the horses returned bearing Archie Scott and Johnson. Mrs. Scott had a magnificent meal ready against their arrival and, though I had already feasted, it was no hardship to keep them company.

Early next morning we rode down to the river-bed, and were soon joined by Mercer. He had not previously landed hereabouts, but after circling round a few times he brought his Moth down neatly on a patch of shingle. A few minutes later Archie Scott, Johnson, and their kit were tucked in the small cabin. The engine roared and the plane soared away northwards, skimming the tree-tops. It was not the finale to our trip that we had planned.

My own intention now was to visit the Franz Josef glacier and then return to the Hermitage across Graham saddle. Before I left Scott’s farm a party arrived bound for the same destination. I was delighted to find Vic Williams, our friend from the Hermitage, in charge, and with his party I travelled northwards, to the West Coast motor road which ends at Cook river some miles north of Scott’s farm. Here a car awaited us, and in the evening we reached the Waiho hotel below the Franz Josef glacier.

The Franz Josef is one of the mountain wonders of the world. It lies at a latitude corresponding to that of the Pyrenees; yet its terminal face is only 640 feet above sea level, and forest grows down so close to its edge that I saw fallen rata flowers lying red upon the ice. The glacier surface, unsullied by moraine, and broken into innumerable pinnacles and crevasses, made an intricate pattern of white and deepest blue, colours echoed above by an ultramarine sky flecked with
Franz Josef Glacier
fleecy cloud. The contrast of opposing tints heightened all colour; the crimson and sombre green in the forest, the glistening white and blue of the glacier and of the sky. For vivid harmony of colour I have seen no equal to the Franz Josef, and the brilliance of the 'colourful East' has seemed dull by comparison with its memory.

For three days we lingered at Waiho, enjoying glimpses of the glacier from the forest paths, and the rare West Coast sunshine, and the friendly comfort of the hotel. The brothers Peter and Alex Graham who own and manage it are charming and unassuming men and great mountaineers. There is the genial ruggedness of the mountains in their faces. With their father, a giant of earlier days, they form the only family tradition of guiding the country has known. As a result of the extending fame both of the glacier and themselves the hotel has grown, but growth has not swamped character; the climber receives a welcome as of homecoming not soon to be forgotten.

Circumstances beyond the control of the Grahams have unfortunately debarred Waiho from being the principal climbing centre of New Zealand: it is less easy of access from the main towns and further from the high peaks than the Hermitage.

One morning I visited the chapel which stands on a little hill close to the hotel. From the exterior it seems an undistinguished wooden building with a galvanized-iron roof, but the interior is of striking and unusual beauty. Behind the altar a single plate of glass stretches from side to side of the chapel and the glacier itself is the altar-piece. The few draperies and fittings are dignified and simple, in perfect harmony. Here one felt might be found a real meaning in religion; here the unity of God and nature might be explained. Three years later in the English Church in Zermatt this scene came back to mind and I marvelled at the piety which erected the ugly Zermatt building, shutting out fresh air and the surrounding natural beauty.

We arranged that I should travel back to the Hermitage over Graham saddle with Vic Williams and his party, which consisted of his wife and two other women climbers. In exchange for their company I would endeavour to make up for their lack of a second guide. For me it was an excellent
arrangement as the névé of the Franz Josef glacier is no place for a solitary climber.

Our first afternoon brought us to Almer hut which overlooks the great icefall of Franz Josef. As far as eye could see were pinnacles and spires without number yet with no two alike. On the following day bad weather sent us hurrying back to Almer hut a few hours after we set out to cross Graham saddle and for five days we remained stormbound. This delay was in high contrast to my experiences in the upper Landsborough a month before. Now we were dry, the hut commodious and the food as varied as is possible in the contents of tins. Hours passed pleasantly in attempts, the first of many, to make me take seriously the game of bridge.

Once more the storm was followed by weather so perfect that we felt our delay well recompensed. The long gentle snowfields which led to Graham saddle were powdered with crystals of new snow which flashed in the sunlight, with a myriad lights. Above us the peaks stood glitteringly mantled with new snow. For these things rather than the climb itself I remember crossing Graham saddle.

It was my first and only expedition behind a first-class guide, and though I was at the tail of the rope during the descent, charged with the safety of a courageous novice, I felt none of that alert tenseness which is inseparable from amateur climbing on unfamiliar ground. The climb was for this lack less satisfying, leaving little memory, but I was grateful to have climbed behind Vic Williams. I learned much from his effortless grace of movement and the economy of energy with which his large axe carved our downhill path.

In mid-afternoon we reached De la Beche corner on the Tasman glacier and made tea in the New Zealand Alpine Club hut. It was the newest hut in the district and the only one not controlled by the Mt. Cook Tourist Company. A few years previously the club had built it aided by public subscription, after a fatal accident on the glacier which might have been averted had the hut then existed. From De la Beche we walked down the level ice of the Tasman glacier and in early evening came to the Ball hut. Mist was blowing up the
THE SOUTHERN ALPS OF NEW ZEALAND

glacier, threatening a stormy night, but later the moon—full and near its zenith—broke fitfully through and traced the ice with changing shadow patterns. The great icefall below Mt. Cook glittered with the cold beauty of diamonds beneath a halo of silver mist.

Next day we returned, by motor car, to the Hermitage. I had planned one further climb before leaving the mountains but the storm had delayed us until the friend whom I had arranged to meet was due to return home. There now seemed little chance of finding another companion; but I was loth to leave the mountains and remained camping near the Hermitage. For several days I revelled in indolence; reading, or lying in the sun or pottering on the near-by rocks as my mood changed. Then an unexpected companion appeared in Professor Turner, the Sheffield authority on glass technology. We decided to climb the Minarets, a graceful ice mountain above De la Beche corner, but bad weather again intervened. Engagements elsewhere prevented the Professor from waiting, and no sooner had he left than the weather improved. This climatic contrariness heightened my desire to climb; my own time was now running short and I resolved, in contravention of all good rules, to climb alone. I decided to attempt Hochstetter Dome, a snow peak above the icefall at the head of the Tasman glacier. Taking the precaution of informing Vic Williams of my intended sin, I set off blithely.

Forbidden fruits are peculiarly delicious and alone on the upper Tasman at dawn I felt the grandeur and exquisite beauty of the hills in a manner rarely given to men accompanied by their own kind. The snow was in excellent condition and I travelled rapidly to avoid the danger of it softening later in the day. A few wide crevasses, slenderly bridged, gave me momentary qualms, but nothing, I knew, could go amiss; the mountains had taken me into their confidence for this last day. However, it seemed wrong to ask too much and, contenting myself with the lower of the two summits of Hochstetter Dome, I hurried down to the glacier. On the clear ice safety no longer counselled haste and I rambled onwards, halting as fancy dictated.
MOUNTAIN PROSPECT

Half the drowsy afternoon I lay on a grassy terrace above the glacier. Shimmering azure haze filled the basin, softening the outlines of the great peaks. The absence of clear-cut detail encouraged my mind to wander over the scene and then beyond into the realm of fancy, rather sentimentally, for this was my last afternoon in the Southern Alps. Soon I should be returning to England after a dozen years in New Zealand. Memory roamed over the past season; I had no regrets. Even the weather, which had so often upset our plans, now seemed essential to experience; we should have gained less enjoyment, less understanding of the mountains, had we known only their sunlit moods.

Around me were the great summits of the Southern Alps—Mt. Cook and Tasman, Haidinger, Minarets and many more. I had climbed none of them—only three times had they entered our plans and then the weather had intervened—now for many years there was no chance that I could do so. Would I ever reach those glistening crests of ice which soared to the frail isolation of the peaks? I did not know, but of one thing I was certain. Could I have relived the past years I would not have changed their pattern. I would have gone again to the remoter valleys, to the lower but unclimbed peaks, where our problem was the wide gamut of travel, through forest and river, over snow and ice and rock. The higher peaks could take their chance in the future. Admittedly they were the finest climbs, but the experience would have been less of our own making and we would have lost more than we gained. The ten years which have passed since that afternoon on the Tasman glacier have not changed this view.

My thoughts strayed onwards to those questions all mountaineers sometimes ask themselves, and never fully answer—Why the hills attracted me and why I climbed them. It seemed that I had nearly found the answer when I was roused by a gentle tapping on my foot. I looked down. So still had I lain that a kea, believing me asleep, was trying to wrench a shining clinker from my boot. It was a signal to depart. The shadows of the peaks were already lengthening, and slinging my rucksack on my shoulder I turned down the glacier.
Part III

THE 'OLD' MOUNTAINS

We look upon them, and our nature fills
With loftier images from their life apart.
They set our feet on curves of freedom, bent
To snap the circles of our discontent.

GEOFFREY WINTHROP YOUNG
The Pennine Alps

Principal Roads
Railways

Scale of Miles

FRANCE
The 'Old' Mountains

The headlands which guard Port Nicholson sank into the broken waters of Cook Strait and the small steamer quailed into the Tasman Sea. Sydney came and went and Melbourne, Adelaide and Perth. The long days at sea slipped slowly by, more conscious but scarcely more real than on that voyage twelve years before which had closed the chapter of my childhood. Now another chapter had ended. I was 'going Home' as the saying runs in New Zealand, but to a home I scarcely knew.

Colombo, Port Said, Naples, Gibraltar gave in turn their brief excitement. England drew nearer, and the days passed impatiently until at last the Devon coast stood before us in the soft gossamer of a summer dawn.

I had often tried to imagine England but my childhood memories misled rather than aided me. They were almost entirely of trivialities and the contrasts of New Zealand had distorted them. To a boy reared in the freedom of a new country, England had seemed a small island of cities and factories, ancient buildings and cultivated parks. Her history, her tradition and her commerce were so great, that I thought no room could remain for natural beauty; and the beauty I had expected was tamed, cultivated and artificial, like pictures on calendars and Christmas cards. So it was, that the greatest and most lasting surprise of my homecoming was the beauty of the rural countryside. In New Zealand the evergreen forests pay scant tribute to the changing year—they are always sombre—and the pageant of the English seasons astonished and delighted me. It was early summer when I landed at Plymouth, and the trees and fields were greener and more peaceful than anything I had ever known.

London—a Kensington laboratory—soon held me closely but I escaped at week-ends into the country, and I came to know autumn with its dying fires; winter, shivering beneath grey skies; the miracle of spring; and all the little sights
and scents which build the aching peace of summer.

I learned much from the English countryside; first the effect of people's lives upon the feeling of a scene. I do not mean the physical changes which they cause, but the special atmosphere created by long generations who have lived in and enjoyed the same surroundings. Never in the old lands, even when there is no man or habitation within sight, is there quite the same feeling of utter aloneness as in the new lands. It is as if those who through the years have viewed the same scene with the same feelings keep us company.

I learned too that size is less important than form and atmosphere, in moulding the effect of country upon our feelings. We live in a size conscious age and the dimensions of a scene often affect our judgment of it. We are in some degree like Mr. Punch's 'Man who had seen Everest', who thought the Alps too insignificant to look at. I had felt that the British hills could not give enjoyment comparable to that I had known in the Southern Alps, because of their size. But I was wrong.

At the end of my first winter in England I visited the Lake District. From a grey drizzling London the train brought me to Windermere on a spring morning. The crisp early sunlight drove sleep from my eyes. No morning had been so invigorating since I left the Southern Alps.

I was to join a party in Ennerdale and my programme was to take the bus to Ambleside, buy a map, study it over breakfast, and adjust my pace across the hills so that I would reach Ennerdale in early evening. Ambleside was waking when the bus arrived; but at a stationer's shop, already open for the London papers, I bought a map and then walked to Langdale, where I had breakfast in a small cottage. No village could fit its surroundings better; its grey stone buildings seemed to have grown out of the hills.

While my breakfast was being prepared I spread out the map and traced my route, Piers Gill, Esk Hawse, Black Sail pass. At first I was a little taken aback—the distance seemed so great—and it was not until I came to the foot of Piers Gill that I was able to laugh at myself. I had never before used a map of the scale one inch to a mile and it was stupidly difficult to accustom
myself to it. In retrospect it is equally difficult to explain why this was so, for I had measured my route against the scale and knew the distance in miles; it was of course a very easy walk. But no map that I had used in New Zealand was on a larger scale than four miles to an inch, and the detail had always been extremely meagre. Thus I was unprepared for the detailed perfection of Bartholomew’s contouring; only after I had walked for an hour and traced the distance I had come did I begin to feel at home with it. From then onwards the map became one of the main sources of the day’s delight. Each curve was on it; I could judge to within a hundred feet where I would cross a contour line. At least a dozen times I halted, spread it upon the ground, orientated it and enjoyed the fidelity of each detail. Once in mid-afternoon, beside Great Gable, I studied it so long that another walker, approaching me unnoticed, thought that I must be lost and offered me advice. I thanked him, No; but we sat down together for a sunny half-hour over chocolate and our pipes.

The next days led me to Gable, Pillar Rock and Scafell. I was frankly terrified by British rock climbing; no other mountains have frightened me quite so often in so short a time. This was a new type of climbing, more sudden and exacting in technique than I had previously known. I found it difficult to get myself into action. In New Zealand the necessity for starting before dawn and all our other preparations had raised us to a keyed expectancy before we reached our first difficulties. But here, after a casual walk the climb suddenly began. I was unprepared for it and the artificiality of the routes irritated me. When I had climbed a few feet I would suddenly feel myself insecure; the sudden change was definitely unpleasant. Having extricated myself from my imagined difficulty I would notice the near-by grassy slopes. Why had I left them? But there was a genuine fascination about it all; something new to be learned.

My timid approach was partially a legacy from the friable New Zealand schists. In some parts of New Zealand there is sound rock but I had never climbed upon it, and I suspected even the firmest holds. It took time to overcome this sub-
conscious fear and to grasp confidently the small firm holds. Then I began to enjoy the exhilaration of rock climbing and to forget the grassy slopes which often lay between the routes.

Early in my acquaintance with the British hills some first-class climbers led me up a number of the more severe routes. As the rope was rarely required for traction I thought it a thoroughly good arrangement, and the generosity of those who slowed their pace to add me to their parties was undoubted. However, on rocks, as on snow and ice, it is bad training to climb habitually above one’s class. It would have been better to have led myself on easier routes.

Rock climbing is a narrower art than the mountaineering of the ice-clad ranges, but within its sphere it is more specialized and highly perfected. It is I think best learned before, and not after, greater mountaineering; British climbers are fortunate that the hills nearest to them, and therefore those on which the majority of them first climb, are small rock peaks. From the narrower to the broader sphere is a natural process of expansion; but the reverse process is less easy, though I found it a pleasurable if humbling discipline. Enjoyment and not achievement is, however, the ultimate test of the success of a holiday among hills, as elsewhere; by that standard no holidays were more successful than mine upon the British hills. The sudden escape from the still half-familiar London, the company I met there, and above all the soft outlines of the hills themselves, occupy a place in memory disproportionately greater than the duration of my visits.

Helyg Cottage, the Climbers’ Club hut below Tryfan, was the scene of several delightful visits but I enjoyed most of all the Easter gatherings at Pen-y-pass. The friend who had arranged to take me there on the first Easter after my return to England was at the last moment unable to go, and I approached the Pen-y-pass hotel shyly through soft rain early on Easter Thursday. I knew none of my contemporaries, but dinner was scarcely over before I felt myself already part of that community. For the first time since I left England I was at home among the hills.

Elsewhere climbing clubs were gathered for their Easter
meets, but the Pen-y-pass gathering has a naturalness never quite achieved by the formal organization of a club. There was a sense of spontaneous harmony difficult to describe. Some parties ‘go’, people are at their ease and by enjoying each other’s company enjoy their surroundings more fully; other parties, apparently similarly constituted, are awkward and uncomfortable for the lack of an intangible social grace. The Pen-y-pass Easters were of the former type and their charm lay in the personality, dominating yet unobtrusive, of Mr. and Mrs. Winthrop Young who gathered us together. For many of us they are inseparable in memory from our delight in North Wales.

There were neither young climbers nor old ones, novices nor experts, at Pen-y-pass, but a blending of all. It was a community which, though its members might change with the years, had long existed; the yellowing pages of an album held the record of the party for more than three decades. One had a sense of a continuous yet expanding and growing tradition.

The varying date of Easter and the vagaries of climate gave pleasant variety to our days. There were white Easters when the rocks were plastered with ice, the cwms snow-filled and the ridges corniced; easy rock climbs became adventures. Sometimes we would chip our way up the Snowdon gullies or walk the Horseshoe from Lliwedd to Crib Goch, delighting in the alpine view, for snow turns small hills into the likeness of great mountains. Then there were Easters when the rocks were dry and warm as at midsummer, and we climbed the crags, pleasant in name as in memory, of Tryfan, Lliwedd or Clogwyn Du’r-ar-ddu.

For me the ideal return to Wales was to walk at leisure to the Heather Terrace on Tryfan and climb the day through, up and down the sunlit buttresses; pure enjoyment and exercise well suited for muscles soft from inactivity. On such a day we were never too preoccupied with the immediate task to appreciate our surroundings; the cloud patterns drifting over the fields below; the shapes of the hills which seemed to grow in height as the sun lowered towards evening and a haze of smoke
drifted up from the valleys; the bathe as we walked homewards, without which no sunlit day was perfectly complete.

In each holiday there was usually at least one day of storm when rain and hail cut our faces as fiercely, it seemed, as they had ever done among remoter mountains, but whatever the weather it was too good to stay indoors. Sometimes we tramped across the mist-shrouded hills, sometimes we climbed up dripping gullies and once, in the extreme effervescence of enthusiasm, we plunged into a tarn while lazy flakes of snow fell on our shivering bodies.

From these varied activities we returned to the luxury of hot baths before a roaring fire. There was no plumbing in the annex to the hotel in which we lived, but a couple of tin baths in its central room were more pleasant and more encouraging to reminiscence than any more modern arrangements could have been. The dinner gong always caught us unawares.

Afterwards over pewter tankards of ale or shandy, the best I can remember, we talked or sang those songs which have become part of the tradition of the party. One night was by custom reserved for tricks of skill and balance—climbing round a kitchen chair or through a climbing-rope suspended from the ceiling, without touching the floor; drinking a glass of water which had been balanced on one's forehead without touching it with one's hands, and returning it there when empty; and many more—an exhausting evening never without its hilarious mishaps.

Thus we lived in a house lacking wireless or telephone, separated from the outer world, until Easter Tuesday found us packing into cars and returning to our normal living. Some at any rate of our number carried away a lingering feeling, which time has strengthened, that in those week-ends we almost recaptured the art of simple enjoyment.
A sunny morning in July 1937 carried me up the Rhône valley in the Simplon-Orient express. It was my first glimpse of Switzerland. Never before had I seen such a neat and orderly valley; with such tidy vineyards, and such tidy villages. Even the river, confined between neat artificial banks, had abandoned its untidy meanderings; and the valley was clean too, with the cleanliness of the frugal Swiss.

The belching engine of yesterday was left behind, and the air was not soiled by our passage. Twenty-four hours before I had left Victoria Station and I was soiled by an age-long night in the spent air of a third-class carriage. But now, as I leaned out of an open window, the two years I had spent as a town dweller were swept away and the wheels of the carriage, the nightmare background of a few hours ago, sang joyfully. I was going to Zermatt.

I felt as good Muslims must feel when they approach Mecca, and indeed it was the Mecca of Mountaineering towards which that train carried me; for Zermatt was the cradle of alpine climbing. We may range our active days over more distant mountains but it is to the Alps—to Zermatt especially—that we owe the method of our enjoyment. It was here that the giants of an earlier day learned to climb; here the first magic stairways were carved in glacier ice; here the first crampons gripped the frozen crispness of snowfields; here every ridge and crest has its historic story, and though I had as yet not even seen the peaks I felt already that I knew them.

The Alps appealed to me in a manner different from the New Zealand ranges. New peaks hold the fascination of the unknown, they challenge our ability and skill, but the old mountains have charms less strong perhaps, but more subtle. It has been said that the personality of a mountain is increased by the endeavours of climbers upon it; certainly it gains an added appeal.

Then there was the settled life between the peaks; the chalets
and the cultivated fields, the slow cattle and the peasants. They made the valleys seem smaller than in New Zealand but there was a great charm in the domesticated scene and in the music of the cow-bells. Later I found a related attraction in Himalayan villages. The small handkerchiefs of cultivation emphasized the scale of the mountains, and the rigorous life of the mountain peoples heightened my sense of the vast natural forces which hold sway among high mountains and are but temporarily quiescent even on the calmest day. There were also physical attractive amenities; the well-graded tracks and the huts. My large New Zealand pack had no place here; a smaller frame rucksack replaced it. Load carrying no longer absorbed the effervescent froth of our enthusiasm, and our mobility was many times increased. Desire was unfettered by the necessity of carrying more than a few days' food; we were not tied to any laboriously transported camp; we could traverse peaks, unencumbered by loads, to reach shelter in the valleys beyond. So from one point of view the Alps gave more complete freedom than the New Zealand ranges. Climbing in New Zealand had been an expedition; here it was a holiday. That was the difference.

Our first week brought little achievement. Brilliant weather had welcomed me to Zermatt and within a couple of hours Campbell Crichton-Miller and I had set out high in ambition to Schunbuhl hut. But we had only done one small training climb—a wasted day for Campbell as he was already fit—before a storm whitened the summits and drove us down to the frugal living of a small Zermatt pension. It was the height of the season. The town was crowded, and draped with bedraggled decorations for Federation day celebrations. But it was not unpleasant though the seriousness of the merry-making astonished me, the patriotic dirges and the damply exploding fireworks watched by damp and unsmiling crowds.

As soon as the weather showed signs of clearing we set out to Gandeg hut taking skis. However, the new snow vanished quickly and, finding a party more foolish than ourselves to take over the hired skis, we crossed to Betemps hut on a sparkling afternoon, and on the following day climbed Monte
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Rosa. I remember the climb principally for its competitive beginning, a new and unwelcome experience. Several other parties intended to make the climb and we set out soon after midnight to avoid their company. Campbell had explained to me the importance of not mentioning our time of departure beforehand, and we were perhaps half an hour in the lead. All too soon candle glimmers appeared in the black pit below us, hovering and swaying like fireflies, now approaching, now drifting away. Thus stimulated to preserve our seclusion we travelled rapidly. Our reward was an untarnished sunrise five hundred feet below Dufour-spitz, and a particularly glorious view of the Italian valleys abrim with morning mist. An hour later the peak became a picnicking ground and we descended.

We had only one definite plan for our fortnight in Zermatt, to climb the Zmutt ridge of the Matterhorn, and the following day we returned to the Schunbuhl hut in readiness for the climb. There was, however, still a garnishing of new snow upon the upper slabs of the Matterhorn and we decided to climb Dent Blanche and Dent d’Hérens before attempting the Zmutt. Settled weather had returned and it gave us the three best consecutive days of climbing I have ever known. We had Dent Blanche to ourselves in the long hours of a sunny morning. Around us was the great circle of the Zermatt peaks, more varied and graceful than any panorama I had seen in New Zealand but less luxuriously draped with ice. Thus, despite their greater altitude, the peaks seemed lower. No cloud in the whole landscape hid their forms and, aided by Campbell’s close knowledge of alpine history, I tried to identify the classic routes. Our minds roamed back into the past, and the figures of an earlier time strode again upon the ridges.

Suddenly we were recalled to the present; an aeroplane roared towards us, circled round the Matterhorn and then spluttered onwards to the Oberland. Conversation changed abruptly from alpine history to the possibility of another war; we dismissed it in a few casual words.

It was now time to descend but we were loth to return
directly to the Schunbuhl glacier, for it lay so close below us, and we swung out across the wide Zinal snowfields coming towards sunset to the Col d’Hérens. Often it is more dramatic to reach an alpine pass than the summit of a peak: the last dozen steps to a pass I have not before climbed, hold for me the same thrill of excitement as children know when the curtain rises at their first Christmas pantomime. The slope which has reduced visibility to but a few feet on the long upward climb falls gradually away, the sky widens, distant summits suddenly pierce the crest and then, with the last upward step, the whole new scene sweeps into view. Peaks on the other hand reveal their views more slowly. Of all passes Col d’Hérens, in late afternoon, was one of the most rewarding. The Matterhorn dominated, obliterating in memory all lesser things; every detail was cast in high relief by the declining sun.

Through the evening we returned to the Schunbuhl hut where, during the day, a large cosmopolitan company had assembled. Two Austrians, men of magnificent physique, draped with pitons and other paraphernalia of modern climbing, were strutting before an admiring audience. A middle-aged man—obviously English from his necktie—who was following the ‘High Level’ route to Chamonix with his daughter and two guides, told me that the Austrians planned to make a new route on the face of Dent d’Hérens. I was greatly impressed and the climb we had just made seemed by contrast the merest pedestrianism.

Next morning a party of Genevois Swiss sought our company en route to Dent d’Hérens. The brevity of my grunting replies can be judged from the fact that at the end of a quarter of an hour they asked me if I was French. However, our ways soon parted.

When we came to the glacier I was surprised by the ease of our passage through the icefall; a similar undertaking in New Zealand would have taken three or four times as long. From other climbers better able to compare Swiss and New Zealand climbing I have heard similar opinions; possibly the general rate of glacial movement is faster in New Zealand.

At 7 A.M. we reached the warming summit rocks and
loitered over our second breakfast speculating of what the
morrow would hold on the Zmutt ridge. It soared before us,
from the glacier at our feet to the Italian summit of the Matter-
horn high above us. From this aspect the peak lacked the
graciousness of its northern views. It was gaunt and sheer,
and the eye turned gratefully to the softer outlines of the
Oberland summits; then westward towards Chamonix where
the blue haze of day lay heavily on the greater distances; and
southward to the mist-filled valleys of Italy. But ever and
again the Tiefenmatten face of the Matterhorn, magnet-like,
captured attention. . . . So we lay regardless of the passage
of time until so many other climbers crowded the summit that
it seemed more pleasant to descend than to remain. Only one
thing disappointed me; we had not seen the Austrians on the
northern face.

The descent brought an alarm. When we were six or
seven hundred feet down the broad icy ridge, a cannonade of
flying stones flashed past our heads. We complained loudly
to the parties on the summit, but no one heeded us and we
hurried to the shelter of the seracs. I have never felt more
frightened; it was my first experience of the danger which
careless climbers cause on the overcrowded routes. Shortly
before noon we were back at the junction of the Schunbuhl
and Tiefenmatten glaciers. The hut was now close above us,
and we plunged into the stinging delight of a glacier pool
which held clear blue water. Then drowsily content we
shambled up to the hut and slept in preparation for the morrow.

We had come to regard the little Swiss hut-keeper as an old
friend. He was very frugal in his ways, always busy and
usually silent. There was little expression on his face, but the
quick glance with which he greeted each returning climber
showed his interest. He knew the peaks well and would
occasionally forget his cooking to discuss our plans. Several
times he had tried to discourage us from attempting the Zmutt
ridge, and when we left the hut half an hour after midnight
we were surprised by the urgency of his warnings and the
warmth of his wishes of good luck.

Circumstances combined to make it one of the most memor-
able of early starts: the hut-keeper's solicitude; then the night itself, silent and black with a blackness that could be felt; more important still a climb I had made in fancy a hundred times was at last becoming a reality, for of all the great Alpine routes the Zmutt and the Brenva had most captivated my imagination. The glimmer of our lantern seemed unusually feeble as we scrambled down to the dark cavern of the glacier. Above us the silhouettes of the peaks faded almost imperceptibly into the sky and the few dim stars seemed more than usually remote.

Some mountaineers regard it as an unfortunate necessity, nothing more, that a long day's climbing begins before dawn. I do not share this view; whenever I have set out to climb after sunrise the day had seemed strangely incomplete, and this had not been merely because I had missed the gorgeous crescendo of dawn. It seems that the groping hours among the sleeping hills make us more receptive to enjoyment in the hours that follow.

The first stir of dawn found us entering the grey shadow of the Zmutt couloir. Like many another amateur party we missed the correct route and paid for our error with a bout of unpleasant step-cutting before reaching the main ridge. The day gave us many glorious moments of contrast, and of them the first, possibly the greatest, was when at last we left the coldness of the couloir and stood upon the sunlit ridge. Feeling returned to numbed fingers and for the first time a smile crossed the countenance of the day. A glittering snow crest now led us to the Teeth of Zmutt, where we paused to breakfast on rocks already warmed by the early sun. Then came a swift-moving hour on the rock rib which leads past that great overhanging 'Nose', the most striking feature of the mountain when seen from Zermatt. We 'led through', each in turn climbing to the full length of the rope, and then belaying while the other climbed past and onwards. It is the most rhythmic and delightful method for a two-man rope, as it makes the climbing pair into a real partnership, responsibility and initiative being equally shared.

On our left the cliff swept upwards, at first perpendicular
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then overhanging, to the bulging rock which loomed above our heads; below our feet were the pinewoods and snug chalets of the Zermatt valley. On our right the Tiefenmatten face, unrelieved by any perceptible ledge or resting-place, carried the eye relentlessly down to the glacier seven thousand feet below.

Against the great overhang we measured our progress; it sank towards us and then slowly fell away below. We had gained the roof of the mountain. Its walls, on which we had scrambled through the dawn, and its eaves, past which the rib had carried us, now lay below and the sky was once more open above our heads.

To offset this advantage the only difficult part of the climb now began. The rib faded to nothingness and our route was upon a face of slabby rocks. The angle was not great, but the slabs were layered like roof tiles, one outsloping flake above the other, lacking good holds or belays. A glaze of ice covered them and we climbed gingerly, very conscious of the great space below.

Throughout the morning a wandering storm had been passing from peak to peak upon the western ranges, coming steadily nearer to us. While we ascended the slabs, Dent d'Hérens had slowly dissolved into the cloud, and gusts of wind now bore wreaths of mist against the Matterhorn. Fierce local storms often rage around the summit and, fearing that one would shortly break, we hurried onwards until the great Cross on the Italian summit loomed through the mist.

I now experienced a strange and unexpected revulsion of feeling. Our arrival on the summit seemed to be a flat and most inadequate climax; it was the one disappointing moment of the day. To stand there was nothing; it was the making of the ascent to which I had looked forward, and that was over. A long-cherished hope had by its realization been annihilated; something was missing now—an absurd feeling perhaps, but nevertheless sincere.

The mist-shrouded summit sped us onwards and we were several hundred feet down the Hornli ridge before we realized that the storm was merely one of those jokes in which
mountains delight; the cloud evaporated and we soon looked back at the sun-bathed peak.

Now a mishap befell me. When I was descending the fixed-ropes of the 'Shoulder' my ice-axe slipped from its sling and clattered down the slope until, no bigger than a match-stick, it passed from view. I had used it for three seasons. There are few possessions for which a sentimental affection develops so strongly, and even after I had purchased a new one I felt absurdly upset by my loss. At the time I was thoroughly ashamed, for a mountaineer who returns without his ice-axe feels as naked as if he had lost his clothes upon the peaks.

Our climbing in Zermatt was now over; by way of celebration we treated ourselves to the best dinner the Schwarzesee hotel could provide, and our first night between sheets in Switzerland. I cannot remember if the food was good or bad. It was all I could do to keep my eyes open until the meal was over, but I have a fleeting memory of a gorgeous sunset. The storm had cleansed the atmosphere, giving it a rare lucidity, and advancing twilight drew from the hills a marvellous wealth of colour—green in the foreground, and on the peaks blue and purple of deep richness, like the velvet hangings of a royal occasion.

We slept the clock round, luxuriated abed while breakfast was brought to us, and then, towards mid-morning, left the hotel and walked round the mountain to the Schunbuhl hut. While we were packing the kit we had left there, the hut-keeper told us the story of the two Austrians we had seen three days before. He had doubted their ability to climb the Dent d'Hérens face, and had with great difficulty persuaded them that the Zmutt ridge was worthy of their attention as preliminary training. Through a telescope he had watched their progress. It was midday before they left the Zmutt couloir, and at dark they had bivouacked beside the Teeth of Zmutt. Clearly their situation was precarious but he did not tell us of it, for he considered it impossible for us to reach them in time to render aid. This had been the reason for his anxiety when we set out. Later a search party found a broken ice-axe on
THE 'OLD' MOUNTAINS

the upper slabs, and two unmatching legs far below, upon the Tiefenmatten glacier.

In Chamonix, David Cox and a fourth companion joined us and we went to the Mer de Glace naively expecting that the good weather of the past week would continue. Within ten hours we were disillusioned by the onslaught of one of the most determined storms I have ever seen. For the next week the sun played hide-and-seek with us. We saw too much of the interior of huts and their frigid attendants, too little of the peaks; only twice did we manage to reach minor summits.

Campbell's time was now ended, ours nearly so, and we decided to spend our last days at the Glacier du Tour where the lower peaks promised better weather. Darkness descended as we climbed to the Refuge du Tour, a large and well-equipped hut which had been opened a few years before by King Albert of the Belgians. Its walls of shining metal were turned to silver by pale shafts of moonlight; but any illusion that we were approaching an enchanted building was quickly dispelled by a convivial gathering of the French Alpine Club which filled every corner of the hut. We slept fitfully until four o'clock and then escaped from the discordant snoring of our fellows into the stillness of the night. Across the crisp névé we made our way towards the Aiguille du Chardonnet. At dawn came a cold bergschrund crossing. The frozen rope was awkward as a wire hawser and our hands were numb; but a short traverse brought us to a sunlit ridge, and the remainder of the day is a pleasant memory of warmth and blue distances.

On our way back to the hut we overtook a timorous woman tethered to an unknown guide. The violence of his language and his casual handling of the rope attracted our attention—had he been leading a recalcitrant dog across the park it would have been unnecessarily brutal. Later we heard that the woman was his wife.

The afternoon heat was oppressive in the hollow of the glacier and I stopped to bathe—wallow would perhaps be a better word—in a mush of new snow covered by a few inches
of water. A delightful bathe; but drying myself with sodden putties was less pleasant, nor do I like the feeling of a flannel shirt upon damp flesh.

My companions had gone ahead to the hut and as I followed them I regretted our frugality among the hills. To an elder generation—the generation whose necks were never seen without ties—it was unthinkable to climb unattended by porters bearing well-filled flagons. Even in this less picturesque age many climbers carry small primus stoves, and others find in strawberry jam, tinned fruit and glacier fragments their ideal refreshment. But we, more spartan—or were we really more lazy?—eschewed all unnecessary weight, and tried to quench our thirst with snow water, which seemed on hot afternoons rather to increase the dryness of our throats, crack our lips and spur us onwards to the hut with its large cups of tea.

We awoke next morning to a landscape of driving cloud, and lingered moodily over breakfast. Afterwards my companions sought ski-ing in the névé basin of the glacier while I, lacking skis, scrambled on the slope behind the hut, heading for no particular objective. Eventually I reached a small peak; it was a fine vantage-point from which to watch the advancing storm. Tattered clouds raced past, varying my horizon bewilderingly, from a few feet to several miles.

The storm broke suddenly. The cloud ceiling dropped; for a few minutes the air was calm and silent within the cloud. Then, with a rending noise like the snapping strings of a thousand fiddles, a thunder-clap burst on the ridge close to me. The head of my ice-axe hissed and I scrambled to a sheltered hollow. Large raindrops hissed and I scrambled to a sheltered hollow. Large raindrops splashed the rocks and sped me downward to the hut.

On the excuse of bad weather we had stretched the limits of our holiday. Today was to have been our last; now we postponed departure until tomorrow, but beyond that there could be no reprieve. The thunder-storm had spent itself by sundown. Hope was rekindled, and at three o'clock when we set out towards the Aiguilles Dorées a full moon shone serenely as our guide. Overhead the sky was clear but the lower slopes
were girdled by a shimmering mist halo. Beneath our feet the new snow glittered with a thousand sequin lights and the peaks, seemingly too delicate to bear the weight of human feet, rose silently above us, silver and azure in the moonlight, mysteriously grey in the shadows.

The labour of step-breaking passed scarcely heeded; almost we regretted the onward march of dawn. But day broke with full pageantry. Every tint of the spectrum flamed in the sky, crimson and gold in the east, deep blue and purple on the western horizon. As the colour swelled, the peaks around us, screened from direct light by higher peaks beyond, turned from dim ethereal outlines into their daylight selves, richer in detail and of fuller beauty.

Our route lay across the Col du Tour to the névé of the Trient Glacier which we traversed beneath the buttresses of the Aiguilles Dorées. Then swinging upwards, a short ice-climb brought us to the crest at the eastern end of the Aiguilles. Sun shafts stabbing obliquely across the face turned each shower of ice chips from our axes into a silver spray. The larger flakes tinkled down the slope, making that music which is the most delightful of all mountain sounds.

While we climbed morning mist rose from the valleys of Italy and Switzerland. One by one the ridges below us were engulfed and we looked out over an ocean of billowing cloud, which lapped the flanks of the Grand Combin and then stretched outwards to the horizon and the piercing summits of Matterhorn and Weisshorn, Monte Rosa and Dent Blanche. As morning advanced the cloud was caught by the breeze and blown hither and thither in aimless silver wreaths; sometimes it clung to the rocks on which we climbed, sometimes it parted to reveal long sunlit views.

Two days before when we had sat in the cloudless air upon the Chardonnet it had seemed that, were only our eyesight more acute, we should have seen half Europe. Today mist garlands embraced the peaks and we were in a world where there were no green valleys or cities, and save ourselves no men, but only snow and rock and cloud. Europe was infinitely remote, and that hour on the summit was one of the
most contented I can remember. Too soon we were clattering down to the Trient Glacier, and onwards to the valley, until in early evening we came to the lush meadows which surround the village of Le Tour. The valley was filled with the glow of sunset and the music of cow-bells. The slow herds were lumbering homeward for the night and behind them we entered the village.
Part IV

A SUMMER IN THE ARCTIC

The greatest objects of Nature are, methinks, the most pleasing to behold; and next to the great concave of the Heavens and the boundless Regions where the Stars inhabit there is nothing that I look upon with more pleasure than the wide Sea and the Mountains of the Earth. There is something august and stately in the Air of these things that inspires the mind with great thoughts and passions. . . .

THOMAS BURNET
Theory of the Earth (1684)
When I was a schoolboy, walking among hills kindled my desire to be a mountaineer, mountaineering in its turn begat the desire to explore. . . . Looking back, the idea of exploration seems to have been born during a lunch-time halt on my first visit to the Rees valley. There were two points of view in the discussion—the one was expressed by Harper, the veteran, who had explored much among mountains but climbed few peaks; the other by younger mountaineers whose main ambition was to reach new summits. I felt in sympathy with both, and wished to combine them; there seemed no hindrance other than the limitations set by time.

I was then becoming interested in botany and the idea gradually developed that whereas some men gained a fuller appreciation of the hills by survey, and others by geology, for me the study of mountain vegetation held similar promise. This train of thought led me to make botany the major subject of my university studies, but scientific exploration remained a dream, remote and unattainable.

During the first years of my return to England this desire nearly died; the present held such great interest, and the unknown lands seemed so far from the South Kensington research laboratory in which I spent my days. But London is the heart and centre of many and various things, and as I learned to find my way it dawned on me that I might be nearer than before to fulfilling my ambition. Daily I walked up Queen's Gate past the British Museum Herbarium which held the botanical collections of a thousand explorers. Almost within a stone's throw of the laboratory where I worked was the Royal Geographical Society, where men prepared for expeditions and later recounted their adventures.

These things had their influence. Often I felt that the complicated glass contrivances, which held the plants whose behaviour I was studying, offered but one way, admittedly a
fruitful one, of understanding their life; could not a natural flora be an equally fruitful setting for my work? Thus, at the end of three years' investigation of academic problems in plant physiology, my desire for scientific exploration had not been quenched; on the contrary I had found the means for its realization.

During the winter of 1936 I heard that a lecturer in the Imperial College of Science hoped to organize an arctic expedition, and I hurriedly tracked him down to an odourful chemical laboratory. Thus began my association with Alexander King.

He had chosen Jan Mayen, a small island in the Greenland Sea, as the scene of his expedition. Two considerations had determined this choice: the island was sufficiently accessible to present no difficulties unsurmountable by a party lacking previous arctic experience, yet it offered a good field for original scientific work. Quickly I became infected with his enthusiasm and gratefully accepted his invitation to cooperate.

The main problem, that of finance, was not yet solved and for eighteen months it seemed almost insoluble. No previous arctic expedition had been sent out by the Imperial College or any other part of the University of London and we could turn to no sympathetic paternal body accustomed to receiving requests such as ours. The trustees of many of the funds which aid scientific work, implied by a discouraging lack of interest that small arctic expeditions were being 'overdone'. Almost every year several such journeys were undertaken, and we soon realized that we could not hope to enter the field without first proving our intention of carrying out serious investigation. This was a blessing in disguise. It forced us to plan our work in considerable detail long before there seemed more than a slender chance of the expedition taking place.

Field-Marshal Lord Wavell has said that capacity for administration is the most important quality in a successful general. Tactical skill, in his view, takes a lower place. A similar rule applies to the leaders of scientific expeditions. Detailed organization is the sine qua non. No natural flair can
A SUMMER IN THE ARCTIC

compensate for its lack. The modern fashion of 'light' expeditions has increased its importance; the less the equipment of an expedition, the more important it is for each item to be of the highest standard. The seasoned traveller may be able to plan his journey with little effort, but for the inexperienced no short-cuts are possible and anything useful we did on Jan Mayen was the result of long and careful preparation.

We studied the records of many previous expeditions and we badgered many long-suffering men with our questions, especially Mr. J. M. Wordie, of Cambridge, whose advice on the general organization of our party was particularly valuable. My own special task was the preparation of our botanical plans, in which Professor F. G. Gregory, F.R.S., of the Imperial College, and the staff of the British Museum Herbarium, took almost kindly and helpful interest.

The work of the expedition was to cover a wide field for we did not wish to rely on results in any one direction to justify our venture, and eventually a party of ten was selected: D. F. Ashby (Geologist), J. N. Jennings (Glaciologist), S. R. Nutman (Marine Zoologist), O. R. Seligman (Ornithologist), J. M. Willcox (Medical Officer and Ornithologist), W. H. Ward (Surveyor), P. S. Wellington and D. F. Westwood (Botanists), in addition to King, who would lead the party, and myself, who would act as his second-in-command and organize the botanical work. Jennings, Seligman and Willcox were from Cambridge, Nutman from Exeter University College and the remainder from the Imperial College. Six of the party were undergraduates and the expedition could therefore not extend beyond the University long vacation. Besides specialized scientific investigation our plans included the more general task of exploring the few unknown parts of the island, especially the northern flank of Beerenberg, the great extinct volcano which dominates Jan Mayen.

As our plans became known various minor additions to them were suggested, and King made himself responsible for observations of half a dozen types; but of these only one, the recording of cosmic rays, need be mentioned here. Cosmic rays are a type of natural radiation which are believed to
emanate from 'black stars'. They have a considerable power of penetration and can thus be recorded on sensitive plates enclosed in metal containers. We were provided with two such sets of recording apparatus. One was to be kept on the summit of Beerenberg for as long as possible and taken back to England at the end of the expedition; the other was to be left on the summit in the hope that a later party would retrieve it. Beerenberg was considered a favourable site for these observations because the incidence of cosmic rays was believed to be greatest in high latitudes and they tend to be absorbed by the dense layers of the atmosphere near sea level.

In the autumn of 1937 we completed the drafting of our plans and submitted them to those from whom we hoped to receive financial aid. Then for months we waited. Early in April 1938 the Leverhulme Trust voted the necessary financial aid and the expedition came into being. Barely twelve weeks remained before we must set out. The days passed furiously checking stores and equipment lists, collecting scientific gear and arranging our outward passages. Mr. G. E. Blackman became our secretary and controlled our funds. To him primarily belonged the credit that no major oversight occurred in our arrangements. The expedition, King and I especially, owed much to him. The lists of our requirements lengthened alarmingly but aided by the generosity of various firms we kept within our means.

When at length we gathered our gear together in London there was a strange assemblage of packages, from rolls of tents to odd-shaped instruments and those elegant boxes in which the British Museum provides equipment to explorers; in all we had some 110 packages and there were 60 more awaiting us in Newcastle. Small wonder that I, who was in charge of baggage, had many anxious moments before the final check at our base camp on Jan Mayen found them all present.

The last hectic days of preparation came and went and on June 26th we sailed from Newcastle-on-Tyne aboard the Bergen steamer. As we slipped down the harbour beneath a grey evening sky I could scarcely believe that the adventure had at last begun.
A SUMMER IN THE ARCTIC

From Bergen our route led to Tromsø, whence we had arranged to cross to Jan Mayen on a sealer chartered by the Norwegian Meteorological Department for the relief of its arctic stations. The ‘express’ steamer up the Norwegian coast left Bergen a couple of hours after our arrival. There was insufficient time to tranship our luggage and the majority of the party remained for a night in Bergen to catch a slower vessel next day. King went ahead to ensure that all arrangements in Tromsø were complete.

I had looked forward to a day of leisurely sightseeing in Bergen fjord, but I had reckoned without the Norwegian Customs. In London the Norwegian Legation had given us impressive documents, all that was necessary to prove that we had free customs passage for our luggage. But the Port of Bergen Authority was not satisfied and only after long dispute did it abandon the desire to strew our instruments over the floor of the Customs shed.

However, the Customs inspector and I parted friends. I remember vividly his pride at showing me a bronze plaque on the sea-wall by which the Anglo-Norwegian Society had commemorated Norwegian sailors lost carrying supplies to England during the First World War. ‘Your Cecil Slingsby,’ he said, ‘unveiled the plaque.’ It was the first of many tributes I heard to the English father of Norwegian mountaineering.

The four-days journey to Tromsø was an interlude of leisure, erratically punctuated by visits to a dozen ports. Sea journeys banish those worryings over small problems which at other times assail, and as we steamed northwards all the doubts and fears of the past weeks faded. Had our calculations of rations been correct? Had we forgotten some small essential item of equipment? These things ceased to matter.

Usually we had our meals on shore and the memory lingers of that knackerbrod, cheese and hors d’œuvre which form the basis of many Norwegian meals. The smoked salmon of other countries has since seemed a disappointing echo.

Thus we sailed northwards, sometimes through sunny land-locked waters, sometimes through squalls of rain, myriads of
gulls wheeling in our wake. A sunny noon brought us to Aalesund, the sea-girt Scandinavian Venice. Night fell away astern, we crossed the Arctic Circle and the sun rode the midnight horizon towards the Pole. A long day carried us past the Lofoten Islands rising sheerly from the sea, alluring rocks to which I hope some day to return at leisure. Finally we entered Tromsø fjord, bleaker and more barren than any we had yet visited. Unmelted snow lingered on the low hills and the town was bleakly utilitarian, with gaunt corrugated-iron warehouses lining the shore. But the people of Tromsø more than made up for the surrounding drabness. The one house I entered, a summer residence in the hills behind, was gaily panelled with brightly painted woods and there was a jollity in the hospitality we received which masked the frugal living of our hosts. I carried away a memory of charming, simple-living people.

The Fortuna, which was to carry us to Jan Mayen, awaited us. She was a small and battered sealer of some 150 tons, reputed to be one of the oldest craft on the Norwegian coast. If richness of aroma is any proof of antiquity this is likely true. The stench of her bilges, apparently coeval with the ship, mingled with the smell of torsk-fisk (dried fish), a most insanitary galley, and several goats, which were to travel with us as deck passengers. This rare combination—remarkable even on a waterfront where the entire air was fishy—rose to meet us as we clambered down onto her decks. In the fo’c’sle, our allotted accommodation for the voyage, it reached a scarcely breathable crescendo. I think we all wished secretly that the voyage was already behind us but before our baggage was stowed we had grown in some degree accustomed to the stench, and we roamed over the ship making several interesting discoveries.

On the bridge was a chronometer made in Havre in 1764; in the engine-room was a single-cylinder engine built in 1850 and a boiler which was refitted last in 1884. Altogether she was a vessel of character, of more character than any other in which I have sailed. We were soon to find that our quarters aboard her were unbearable, that the food was unetectable, that
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she rolled villainously, and that her maximum speed under combined steam and sail was barely three and a half knots; but before she left us at Jan Mayen we had grown strangely fond of her, and I hope she still roams the arctic seas.

It was Friday afternoon when our stores were stowed aboard, but the skipper believed it was unlucky to sail towards Svarlbad, 'the cold lands', on a Friday and we lay at Tromsö until one o'clock next morning. This convenient superstition enabled us all to say a suitable farewell.

As the Fortuna swung slowly into the fjord a small group of men shouted and waved goodbye. Conspicuous among them was the British Vice-Consul, a charming middle-aged Norwegian who was intensely proud of his honorary appointment. He had helped us in a hundred ways and the successful arrangement of our departure gave him probably as great satisfaction as it gave us. I can see him still, standing a little in front of the others, clad in a black overcoat and bowler hat. As the gap between the Fortuna and the quay widened he waved a large white handkerchief with a royal dignity. It didn’t matter to him that his bowler hat was more green than black or that his overcoat rivalled it in colour. Men dressed like that in London, so it was the proper attire for the official representative of Great Britain. He wore it proudly. I only hope that the same figure wearing the same bowler hat once again represents His Britannic Majesty in Tromsö.

The other men upon the quay turned away. The echo of the parting blast upon the Fortuna’s whistle faded but the Vice-Consul still stood waving. His handkerchief was now a tiny moving speck of white.

It seemed wise to go to sleep before we reached the open sea and I wedged myself with kitbags into the wooden box close under the forepeak which was my bunk.

Several hours later I awoke rattling about in my box like a pea in an over-large pod. The ship was rolling heavily and the air was filled with the noise of chains rattling on the deck above my head, waves crashing into the bows, and loose boxes hurtling across the floor. Punctuating the uproar like minute guns were sounds of human distress, unidentified until
peering over the side of my bunk I saw one of our number crouching in a corner, a large bucket held grimly between his knees.

The motion of the ship had stirred up the bilges, and fleeing from the nauseating stench I scrambled up the ladder to the fresh air. Down below it had seemed that a mighty storm was raging but the morning was in fact clear and sunny, almost windless; it was the long Atlantic swell catching the ship abeam which made her roll so heavily. To return to the foetid fo’c’sle was unthinkable, and we carried our sleeping-bags on deck. The weather remained fine and for the five days of our journey we lay on the hatch talking and drowsing by turns while the sun circled the heavens.

Throughout the morning of the last day a thin veil of lambent mist lay ahead of us. Our speed was reduced to barely a knot and we moved silently through calm sunlit waters. Like azure gauze the mists hung, curtain beyond curtain, from the blue sky to the blue sea, parting as we advanced. We scanned the ocean ahead, awaiting the opening of the final curtain behind which we knew lay Jan Mayen. Throughout the morning, and for the first hour of the afternoon, we passed through this realm of mist coming it seemed no nearer to the island. Then suddenly, unbelievably high above our heads, the cloud melted and the sunlit peak of Beerenberg appeared ethereally remote floating upon cloud. For a moment only we saw the vision, and we wondered if what we had seen was true.

As we waited the curtain again parted until the entire summit of the mountain stood revealed, a long ridge of glistening snow whence blue-veined icefalls tumbled into the mist. Then slowly from the sea the mist rolled upwards, and beneath it loomed the black rocks of the coast and the white faces of glaciers. Parted from the ocean the mist had no strength to resist the dissolving rays of the sun and soon it lingered only as a floating girdle around the waist of the mountain.

All this time we had been heading for the southern corner of the eastern coast, coming so close to the shore that we could see gulls wheeling in thousands about the cliffs. Then we bore
"We camped on the deck of the Fortuna"
A SUMMER IN THE ARCTIC

southwards, skirting a milder shore to drop anchor a mile or more off Jameson Bay. Evening was approaching but in the arctic summer this meant nothing. We were soon hard at work taking our stores to the steep surf-swept beach in small boats, and the sun was already again in the east when we flung ourselves into our tents to sleep.
JAN MAYEN lies athwart the 71st parallel of latitude North, some four hundred miles west of Norway and about half that distance from Greenland. It is a small island, upwards of thirty-five miles long and varying in width from three to a dozen miles. Its early history is shrouded in doubt impenetrable as the mists which conceal its shores for three hundred days of every year. Some consider it the original Svarlbad of the Norsemen, the 'cold land' of which the sagas tell, but it is uncertain whether that name was first applied to the Greenland mountains or to the Beerenberg on Jan Mayen.

In 1607 Hudson, an English mariner, sighted the island whilst sealing in the northern seas, but Jan Jacobz May, a Dane, who came upon the island seven years later, is usually regarded as its discoverer. He is commemorated in the name Jan Mayen. Subsequent years of the seventeenth century brought other visitors; for the most part all were awe-struck by the great cliffs and glaciers of Beerenberg. Their journals give highly coloured descriptions of the island.

Robert Fotherby, a solid north countryman, was an exception and his diary, written in 1615, contains the earliest faithful description of the great mountain in the north of the island which he named, 'Mt. Hakluyt', in honour of the author of the famous Voyages. Unfortunately that name was never taken into use; many years later the now accepted name of Beerenberg was introduced.

Whaling was at this time a prosperous industry in the arctic; Jan Mayen was an ideally situated base, and a Dutch company soon built up a whaling factory at Walrus Gat on the northern coast. Old prints depict a scene of thriving activity; vats for boiling down oil lined the beach, many whalers rode at anchor in the bay, a row of dwelling huts and storehouses stood beneath the hills; but the venture was short-lived. In the spring of 1634 the relief ship found the station silent and deserted. In the huts lay the unburied bodies of the
two men who had survived longest through the arctic night; their diaries told a grim story of slow death from disease. Those who found them must have been familiar enough with violent death on the seas, but this scene of slow agony struck terror in their hearts. They sailed homewards never to return, and today a few scattered bricks and some massive whale-bones upon the shore alone mark the site of the factory. The arctic whaling industry was already passing its hey-day and Jan Mayen soon faded from men's minds.

It was natural that this mist-shrouded island, on the summer margin of the icefloes, should have an opprobrious reputation in days when maps and navigating instruments were less reliable than they now are. Mariners could not judge the exact whereabouts of Jan Mayen and the wreckage of more than one craft littered its shores. Other circumstances supported this prejudice; the fate of the whaling venture, the inhospitable nature of the island, the absence of any sheltered anchorage, and perhaps most important of all, the fact that the island had been seen 'on fire' by a navigator who came by chance close to its shores. Wiser men gave it a wide berth.

In more modern times the first visitor of note was William Scoresby, Jnr., who made the landfall of Jan Mayen in his return from Spitzbergen soon after the beginning of the nineteenth century. Conveniently for geologists he saw the last volcanic eruption in the island's history and his description was sufficiently detailed for the crater then active to be identified by later parties.

In 1856, came the picturesque visit of Lord Dufferin. He lived in an age when travel was more romantic, more leisurely, more intellectual and, perhaps, more worth-while than it is today. The record of his voyage in Letters from High Latitudes is among the most charming pieces of travel literature. As a guide-book it may be misleading, but it is delightful in contrast to many modern journals in which detailed factual accuracy, and inelegant expression, too often make uninspiring reading. I believe it to be at least as important for an explorer writing a general, as opposed to a technical, description of his travels to convey an impression of the enjoyment he has
received, and his personal reaction to his surroundings, as to make faithful record of minute geographic detail. The ideal is to combine both, but how seldom is it achieved. An old blue-and-gilt covered copy of *Letters from High Latitudes* which I once possessed was among my most cherished books. The frontispiece, an engraving by W. H. Whymper—brother of Whymper of the Matterhorn—gave Dufferin’s impression of Beerenberg. No photograph could have caught the feeling of that view as the engraving does.

Dufferin landed at a small bay on the eastern coast close under Beerenberg. As a memento of his visit he carried ashore the old figurehead of his yacht which had been replaced by a new one at the beginning of the voyage, and set it up on a rocky platform overlooking the ocean. In his diary he wrote, ‘We left the superseded damsel, somewhat grimly smiling across the frozen ocean at her feet, until some Bacchus of a bear should come to relieve the loneliness of my wooden Ariadne’. It was a pleasant but ill-founded fancy.

The discovery of this trophy seemed a pleasant frill to our plans, but, though we searched the cliffs carefully, there was no sign of Ariadne. Had she been found by the fox-trappers who occasionally travel the coast? Had the snows of winter and the crumbling rocks cast her from her pedestal? The latter is the more likely, also the more picturesque explanation.

The Austrian ‘Polar Year’ Expedition of 1882–3 was the first important scientific expedition to visit the island. It was an elaborate and expensive undertaking lasting eighteen months, but its results were disappointing. In addition to meteorologists, whose studies were the primary reason for the expedition, there were botanists, geologists and surveyors; but their collections were meagre, and their map, though a masterpiece of draftsmanship, fit decoration for any wall, was very inaccurate except in the immediate vicinity of their base camp. Apparently they were disinclined to travel far from its shelter. None the less they succeeded in plastering the island with their own and their compatriots’ uncomely names.

During the first two decades of the twentieth century many
travellers of greater ability made brief visits, usually while en route to Greenland. Fortunately for us who came after, they had insufficient time to do extensive work, though several, especially Gandrup, made important natural history collections. During the same period a number of trappers made remunerative journeys and nearly exterminated the arctic foxes on the island.

A new chapter in the history of Jan Mayen began in 1921 when the Norwegian Meteorological Service set up a Meteorological and Radio Station. From 1924 up to the outbreak of war it was continuously manned, and provided important data for weather forecasting on the Norwegian coast. Fishing is the staple industry of Norway, and coastwise navigation is particularly hazardous in bad weather, thus the meteorological service, one of the most efficient in the world, is of inestimable value. Four operators are stationed on Jan Mayen. They are relieved annually. Two other meteorological posts, Myggbukta in East Greenland and Spitzbergen, are further north, but by virtue of its fogs and winds Jan Mayen is the least favoured and the highest paid appointment. In 1929 Norway formally annexed the island.

In recent years the annual Government supply ships have made the island more accessible. In 1921 a British party led by J. M. Wordie accompanied the meteorological reconnaissance ship. They carried out geological and botanical work over a large part of the island and also made the first ascent of the Beerenberg. Six years later the Director of the Meteorological Station repeated Wordie’s climb. Government frowned on his activities and further climbing by the meteorologists was forbidden. The third ascent was made in 1933 by Messrs. N. E. Odell and W. A. Wood while en route to Greenland; a year later a Norwegian fox-trapper climbed nearly if not quite to the summit. 1932–3 saw a second Austrian ‘Polar Year’ Expedition to Jan Mayen. This time the party was small and confined itself to meteorological and magnetic studies. On two occasions Miss Louisa Boyd, the American geographer, lay off the coast of Jan Mayen in her yacht and members of her scientific staff visited the shore.
Considerable collections of birds and plant specimens were made by the brothers Bird in 1934.

The summers of 1937 to 1939 saw the opening of a new phase in the island's life. Several cruising liners were enabled by radio-location to come safely inshore even in thick weather, and on at least one occasion boatloads of tourists spent half an hour at Walrus Gat where the Danish whalers had perished three centuries before.

Such is the history of the island to which the Imperial College expedition went.

The remoteness of Jan Mayen is sufficient explanation of its attraction for tourists, but it may appear strange that, after so many and so varied visitors, the small island should be still sufficiently little known to attract a scientific party. Yet this was so, and the reason for it lay in the slowness of travel over many parts of the island, in the fog-banks which delay the traveller, and in the shortness of the visits made by the more serious of our predecessors.

In shape the island resembles a lop-sided dumb-bell running from north-east to south-west. The north-eastern end of the dumb-bell, approximately half the area of the entire island, is filled by the great mass of the Beerenberg, an extinct volcano 7,680 feet high. The tangled volcanic hills of the south-western end, and the gentler country of the central region are, by comparison, featureless, almost drab. South-west of Beerenberg, where the mountain falls away to the narrow central isthmus, lies Jameson Bay. The headland of Egg Bluff, a lone volcanic hill shaped like a crouching tiger, gives partial shelter to the bay, making it the best landing beach on the southern coast. For this reason it was selected as the site for the Meteorological Station; it was here that our expedition landed.

This is the most desolate part of the island; behind the low shattered cliffs lies the debris of the eruption which Scoresby saw early last century. It is a waste of brown volcanic ash. Nature seldom approaches man-made ugliness so nearly as in this melancholy landscape. Few plants grow in the hostile soil, and those which have gained a footing are stunted to unloveliness. A century has been insufficient to consolidate
the debris, and beneath the surface are many cavities covered by treacherous crust, sometimes only a few inches thick. The hard and level surface deceives the traveller until suddenly the hollow crust crumbles and his body half disappears from view. Even on the rare days of sunshine I disliked crossing over it with a load on my back, but it was when hurricanes swept the island that its worst features were revealed. Then clouds of sharp-edged particles blinded the eyes, cut the face and seemed to penetrate every pore. At the wireless station the windows were opaque, frosted by the driven ash.

South of the Volcanic Desert a wide beach stretches along the coast for six or seven miles. At the outer margin the waves have cast up a high storm beach which at some seasons of the year encloses an expanse of shallow water, the 'South Lagoon'. Behind lies a low line of volcanic hills, which forms the backbone of the isthmus connecting Beerenberg to the lower hills of the south. On the northern coast, nestling in the corner where this ridge merges into the Beerenberg, is the North Lagoon of deep fresh water fed by the snows above. It is the most pleasant corner of the island, greener than any other part and more sheltered from wind.

The southern end of the island is a tangle of volcanic hills rising to some 2,200 feet. In summer, snow remains only as untidy patches in hollows and the lava floes are covered with mosses and brackens, brown or silver-grey.

Apart from the Beerenberg few features of the island left vivid memory. Egg Bluff was an exception. So was the tattered headland of Walrus Gat, carved by wind and water into fantastic masonry. Another memorable view was the noble sweep of the coast by the South Lagoon, with Beerenberg in the background and in the middle distance Saulé, the 'Pillar Rock', sheerer than its Ennerdale namesake, and the more striking for an oasis of vivid green beneath its shelter.

But if the southern parts of the island had scant scenic attraction they also presented few problems to the traveller. On the lava floes the moss carpet concealed irregularities and hollows, making progress slow and painful to the ankles, but never really difficult.
The two factors that restricted our movements most greatly were the coastal cliffs and the mist. Climbing was hazardous on the loose undercut faces, and frequent rock-falls discouraged us from the beaches.

We could usually find sheltered hollows carpeted with moss in which to pitch our tents, but lack of water was a serious problem, especially in the southern part of the island. Rain water drains away rapidly through the porous lava and volcanic sand, and often we had the tantalizing experience of feeling heavy Scotch mist soak our clothing while there was insufficient water to fill our cooking pots.

At a number of points on the coast were huts, the relics of various fox-trapping expeditions. They were in such poor repair that, with the exception of one at North Lagoon, we rarely used them.

The summer on Jan Mayen belied the popular conception of the arctic climate. Little snow lay near sea level, and it was rare for pack-ice to be seen from the island. At sea level the temperature seldom fell to freezing point, and on many days we were able to march comfortably in our shirt-sleeves. Fog and hurricane were our two worries.

Almost always cloud enwrapped us, and when the shroud lifted we viewed the clear sky with delight akin to that of children on a long-promised holiday. Hurricanes were less frequent but much more unpleasant. On the average the wind reaches full hurricane force twice very month, and before this onslaught tents in exposed positions were torn like muslin. After our first such experience we learned to select our camp sites with great care.

The flora and fauna of Jan Mayen are small. Arctic foxes are the only mammals now living on the island, though the name Beerenberg (i.e. Bear Mountain) indicates that polar bears must have strayed across the ice floes from Greenland within historic time. There are sea-birds in great numbers upon the cliffs; gulls of many types, petrels, guillemots, puffins and eider duck. We never tired of watching them wheeling and soaring above us; to them we were a source of equally unending interest, and we developed a hearty loathing of...
fulmar petrels, the 'dive-bombers' of sea-birds, which swept downwards from the cliffs to within a few feet of our heads, thus to inspect us better. As they approached, their wings made a noise scarcely distinguishable from that of falling stones; when they rose again they seemed to laugh at our alarm.

Mosses and lichens dominate the vegetation, except in sheltered hollows where birds and foxes have added fertility to the soil or springs provide sufficient moisture for the growth of flowering plants. But at best it was meagre vegetation. None of the plants approached the stature even of shrubs. The nearest trees grew several hundred miles away across the ocean, yet the beaches were littered, incongruously, with driftwood, sometimes considerable in size. This gave us a welcome source of firewood, and we carried samples back to England for examination by timber experts, who identified them as the wood of European trees.

On the beaches, too, was other jetsam; fragments of wreckage, and many glass fish-net floats, delicately frosted by long rolling on the sand. They varied greatly in size and colour, and we took the most beautiful home as mementoes of our journey.
To avoid unnecessary labour we established our base camp at Jameson Bay where we had landed. Near by was the Meteorological Station and from its staff we received considerable assistance. For our laboratory and store they lent us a small hut, originally built for the Austrian expedition in 1932, and we soon came to realize how inadequate would have been the tents we had intended to use. It was a convenient camp, but the surrounding Volcanic Desert was a hopeless centre for botanical work, and within twenty-four hours of our arrival Wellington, Westwood and I set out in search of a more favourable site.

A suggestion of Wordie's made our first cast fruitful and some three and a half miles to the east, near Cape Fishburn, we found a green valley sheltered in a fold of the Beerenberg. The vegetation was as rich and varied as we could hope to find and the following day we made our botanical camp there in three small tents; one served as a laboratory, in another we slept and in the third we kept our stores and did our cooking.

Some people regard botany as merely the collection and naming of flowers; an outline of the work we attempted may help to remove this misconception. Part of our time we did spend collecting specimens, drying and packing them, but this was only the beginning. The real problem of the field botanist is to understand the relationships between plants growing side by side; how they adapt themselves to the vagaries of soil and climate. In this study a mere list of plant names is of no greater value than the Post Office Directory would be to a sociologist investigating the life of a city. It is only a foundation; and though we called ourselves botanists we interested ourselves in matters of geology, meteorology, soil science, physiology and chemical analysis. We used two 'laboratories', though that term is flattering to the places where we worked. At Fishburn the 'physiological laboratory' was a small tent, in which we lay on our bellies reading instruments connected to plants
outside, and preserved samples for analysis after our return to England. At the base camp King presided over an ‘analytical laboratory’ on top of a packing-case, carrying out work for which fresh samples were necessary.

The collecting work was straightforward enough. Of each plant which we found we took specimens of leaves, flowers and if possible fruits, and attached to them small tags such as drapers use to price their goods. Each tag was numbered and the specimen was then laid carefully in a thin paper folder which was placed between sheets of absorbent paper in a drying press. In note-books we kept records of the numbers of our specimens and the situations in which we had collected them. Each day the absorbent paper was replaced with dry sheets; after five to ten days, depending on their nature, the specimens were dry. The folders were then made into parcels between cardboard. Powdered naphthalene was dusted round their edges to discourage insects, and they were then wrapped in waterproof paper and stored in boxes with well-fitting lids.

The humid atmosphere and the low temperatures made it difficult to dry the absorbent paper in the open air, and the roof of our base hut was usually festooned with strings of sheets. Invariably they became entangled with the heads of our companions and so reduced the popularity of the botanists. None the less collecting was much easier than in many countries; for though specimens were slow to dry, the low temperature caused fungi to be equally slow in attacking them.

We concentrated our attention mainly on flowering plants, though we strove also to include the more important mosses and lichens. Our specimens of flowering plants numbered over five hundred but they belonged to only fifty-nine different species. The large number of specimens was partly due to the difficulty of deciding in the field whether small differences existed, and partly because we often found specimens better than those we had already collected. We knew moreover that the British Museum would find good use for duplicates.

None of the flowering plants were new to science—they had all been found on Greenland or Iceland. Birds, or the wind or the tide or animals crossing the winter pack-ice, must have
carried them to Jan Mayen after the major volcanic activity of the Beerenberg subsided. But though we found no new species we found several not previously recorded on the island.

A gardener would not have been impressed by our collections. None of the plants attained the status even of shrubs and the only woody plants were a dwarf willow, *Salix herbacea*, which scrambled over the ground seldom more than nine inches in height, and a heath, *Empetrum nigrum*, larger, but so infrequent that previous travellers had not found it.

There were several saxifrages of which the most attractive was perhaps *Saxifraga argentea*. Buttercups—the yellow *Ranunculus alpina* was the most common—and the white *Arabis alpina* made occasional gay patches, but it was only in the most sheltered places that they grew. One of the most common plants was the ubiquitous *Oxyria digyna*, the 'mountain sorrel' which occurs also on the British hills and in Switzerland; a year later its name was to appear frequently in my Himalayan note-books. The Grasses were another well-represented family numbering a dozen species.

While we travelled with our collecting presses over the island, we made notes from which to compile an ecological description of the vegetation. Ecology is the branch of biology which considers the relationship between plants or animals growing in the same locality, and between them and their environment. The distribution of plants upon the surface of the earth is not haphazard except where man has interfered. On mountain-tops the vegetation differs from that of the plains. Forests grow only where there is a certain minimum rainfall; in drier places are grasslands or deserts. Gorse and broom belong to open slopes, not to the shadows of the forest; by contrast ferns, except for a few types, shrink into the shade. In each locality a definite relationship exists between the plants. Each by its growth influences the growth of its neighbours, making conditions favourable for some, discouraging others. The ecologist seeks to describe these natural groupings, to which he gives such names as plant associations, communities or vegetational types. But he is not content with static description. The vegetation which now grows in one
Base Camp on "Volcanic Desert," Beerenberg in background
Beerenberg

Beerenberg: Summit, Peak Haakon
locality has not always been there. Even the oldest forest once began; by the growth and death of humbler plants the soil conditions necessary for the growth of forest giants were developed. To these changes the name plant succession is given, and the ecologist seeks evidence of its course.

The limited flora of Jan Mayen made ecological description much easier than it would have been in a tropical island of similar size, but none the less, when our work was finished, we could not regard it as more than a brief preliminary survey. More than two dozen types of vegetation were distinguishable and we sought to arrange them in their successional sequences. On some lava fields which the geologist told us were most recent in origin, lichens grew often to the exclusion of all else; later, mosses superseded them, and more than half the island was covered with a drab yellow-grey moss carpet. In more favourable regions the dwarf willow grew, usually in association with moss. This was the most widespread type of vegetation which contained any flowering plants.

Only in the most sheltered places did we find a more highly developed vegetation, but at best it was no more than a closely matted carpet of perhaps a dozen species, through which willow scrambled and arabis and saxifrage made welcome points of colour.

Sometimes the great detritus fans below cliffs, where seabirds nested in large numbers, supported a rich carpet of plants. They grew strongest immediately below the cliffs. In other places where there were no such colonies—for the birds were fastidious in their choice—similar slopes bore but few stunted plants.

One day when Peter Wellington was making a solitary excursion on the lower Beerenberg slopes he saw a patch of greenness like a springtime field in England. It was doubly striking against the drab hillside, and curiosity carried him quickly to a small nook where the air was heavy with the scent of arctic foxes and their droppings. It was here that we first found Alchemilla glomerulans and several other species.

The reason for this added luxuriance in the neighbourhood of bird places or fox burrows was not far to seek. As every
gardener knows, nitrogen is essential for plant growth and animal manure is one of its best sources. Growth is more frequently retarded by the lack of nitrogen than any other element—an ironic situation when four-fifths of the atmosphere consists of gaseous nitrogen. But plants are unable to use nitrogen gas. They require it as substances such as nitrates; certain bacteria alone have the power of absorbing it from the atmosphere and building it into their bodies.

In the soil nitrates and kindred substances are derived from plant or animal waste, or from the air by the action of bacteria. In the Arctic the scanty vegetation provides little nitrogen by its decomposition and the low temperature reduces the activity of bacteria; thus the general level of nitrogen is low except where animal droppings increase it. The effect on growth is then very striking.

We wished to find out how closely the distribution of the vegetation was controlled by the supply of nitrogen in the soil. To do this it was necessary to analyse samples of soil from representative localities. Here Alexander King entered particularly into our plans.

Soil chemists talk of available nitrogen, that is to say the part of the nitrogen in the soil which plants can use; it was in the concentration of this that we were particularly interested. Most inconveniently the amount of available nitrogen changes if samples of soil are stored. Thus it was necessary to carry out in our camps analytical work of a type which belongs more properly to a well-equipped laboratory. King's ingenuity overcame all difficulties, and we were able to make observations such as few expeditions have undertaken. Our results showed that nitrogen supply proved to be even more important than we had expected.

We also studied other subjects, including the movement of stomata—the minute breathing pores of leaves. In lower latitudes they tend to open by day and close by night. What happened in the perpetual light of the arctic summer? Complicated apparatus was necessary to measure their changing area, and we had several anxious times when gales bore down upon us during our experiments. Results were fewer than we
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had hoped; but it seemed that some plants showed less stomata movement at mid-summer than in autumn when there were several hours of twilight towards midnight.

Another of the questions we investigated was the manner in which plants adapt themselves to the short arctic summer; often where they grew, snow lay late into the season and their active life lasted less than three months. The low temperatures slow down growth, yet in this short period plants produced first leaves, then flowers and seeds. On this their survival depended. How was this rapid development attained?

Very few annual plants are found in arctic lands, or for that matter on high alps, where conditions are in some respects similar. In one season growth from seed to fruit appears impossible; plants grow vegetatively in their first season and build up food reserves with which to get a flying start in the next. Growth often begins weeks before the snow has melted, and we found buds and leaves already developing beneath as much as four feet of snow. This is a common characteristic also of alpine plants; it causes that most beautiful of alpine sights in spring—flowers blooming close to the margin of the retreating snows.

What stimulates this resurgent life? We do not know, but it seems possible only in plants which are able to store reserves of food. Carbohydrates—that is to say starch and sugars—are the substances most needed in the building up of the plant body, and it therefore seemed desirable to study their concentration throughout the growing season. This we did by preserving samples which it took many weeks to analyse after our return to England.

We found that the concentration of sugar is particularly high when growth begins in spring; but thereafter it falls rapidly, for the plants use the sugar in the formation of new leaves, stems, roots and flowers. However, in the later part of the season, when little new growth occurs, the leaves continue to build up starch and sugar, with the result that a high concentration is again attained. In autumn a considerable part of this stored food is in the form of starch but it is converted, under the influence of the low temperatures of winter, into sugar. This
benefits the plant in two ways: the dissolved sugar prevents the sap of the plants from freezing even if the temperature is far below freezing point; and in spring the sugar is immediately available to build new tissues. In this way the plants accommodate themselves to the short arctic summer.

Our various investigations demanded that one of us should remain at Fishburn camp for the greater part of the summer, but the size of our botanical party permitted us to make in addition collecting and exploring journeys until one or other of us had visited almost every part of the island.

Meanwhile the other members of the party similarly followed the dictates of their particular subject. From time to time we met, perhaps changed partners and then set off again. Over all King contrived to keep a helpful and paternal eye, making a greater contribution to the success of our work than was perhaps obvious at the time; for the most helpful are often the least obtrusive.
It was on the Beerenberg that the problems and the rewards of travel were greatest. This great extinct volcano, the dominating feature of Jan Mayen, rises to the height of 7,680 feet and at sea level it varies in diameter from twelve to fifteen miles. The volume of its foundations beneath the sea must be many times greater than its upper part, and there are in the world few larger volcanic cones. But form and situation rather than size make it a notable mountain. Many thousands of years have passed since it was last in eruption, though smaller cones round its base have been active within historic time. Today its crater, some three-quarters of a mile in width, is a level icefield untrodden by the foot of any climber. Some final paroxysm of the dying volcano rent a deep gash in the northern wall of the crater, and through this passage the ice escapes and cascades downwards to the ocean in the tumbling icefalls of the Weyprecht glacier.

The highest peak rises immediately to the west of the Weyprecht, and facing it across the glacier is the second highest peak, half a mile distant. These summits are joined by the crater rim, a horseshoe of snow and ice some three miles long, which encloses the Weyprecht névé. For fifteen hundred or two thousand feet from the summit the mountain falls steeply but below this level the angle is more gradual. On the south-west flank these gentle slopes continue down to sea level, making the approach easy. Elsewhere the base of the mountain has been undercut by the long action of the sea, and in only a few places is it possible to force an upward passage through the cliffs, sometimes two thousand feet high, which girdle the mountain.

Above the altitude of three thousand feet, the Beerenberg is sheathed in a mantle of ice, from the hem of which many glaciers descend to the ocean; of these the South glacier is the largest and the only one sufficiently gentle in gradient to provide a practicable climbing route. Like the glaciers in many
other parts of the world those on Jan Mayen show signs of decreasing size, and the waves have swept up storm beaches against the majority of the glacier faces. They are sea-washed only during the highest tides, though two glaciers, the Wey-precht and Kjerulf, still push their snouts out into deep water.

The ascents of Beerenberg prior to our visit had all been made from the south-west. Its other approaches were unexplored except by fox-trappers, who had travelled close to sea level along its southern and eastern sides. Difficulties of a type we could not determine had prevented them from crossing its northern face.

With this slender information, and a few indistinct photographs taken from the sea to guide us, we planned the following programme. First we would ascend Beerenberg from the south-west, by the route of the earlier parties, and leave on the summit an apparatus to record cosmic rays. Next, towards the middle of our stay on the island, we would attempt to make a circuit of Beerenberg and ascend its unclimbed north-east peak. Finally, at the end of the expedition, we intended again to climb the mountain from the south-west, for the dual purpose of retrieving the cosmic-ray apparatus and observing the change in snow conditions during the season. These would not be purely mountaineering journeys, though I would have undertaken them happily with no other purpose. Survey, glaciology, geology and botany all demanded that we should explore Beerenberg. Thus were science and climbing happily combined.

The earlier parties had bivouacked below the final cone, but we decided to dispense with high camps. Good days were rare and often sandwiched between bad ones; only by starting from sea level immediately conditions seemed favourable could we hope to take full advantage of good weather. This plan proved sound, for two of our three climbs were made when clear weather lasted less than thirty-six hours.

The South glacier close to Fishburn camp offered a convenient route to the upper slopes, and before leaving the base to begin our botanical work we arranged that King and Jennings would join us as soon as climbing conditions appeared favourable. Accordingly when we had been at work for a little more than a week they arrived equipped for the climb.
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Already we had begun to disregard night and day, sleeping when it seemed most convenient; and we set out to climb Beerenberg at the unconventional hour of 5 P.M. There were four in the party: King, Jennings, Westwood and myself.

We gained the clear ice of the South glacier across a narrow and easy moraine tongue. Travelling was easy; the ice was little broken and set at a gentle angle. Ahead of us the glacier rose with no perceptible variation in gradient, growing wider as it ran back into the mountain, until at the altitude of 3,500 feet it merged with lesser icefields on either flank. Higher a continuous ice-sheath extended as far as we could see around the convex mountain slope.

It was a featureless expanse of ice, unrelieved until the foot of the final slopes four or five miles distant, where a small rocky outcrop, or nunetak, rose through the ice. The absence of landmarks made it difficult to appreciate its size, and the gently sloping foreground dwarfed the summit cone. We bore obliquely upwards towards the nunetak, marching steadily through the evening. Three hours brought us seemingly no nearer to our goal; only by looking backwards could we gauge our progress. For a time we could see the southern end of the island, scimitar-shaped and studded with many small volcanic cones. With the passing hours fog rolled inward from the ocean submerging them one by one.

Towards midnight the sky darkened and the drab light flattened the few vestiges of relief in the scene; we continued onwards like automatons for the mountain had communicated to us its melancholy mood. Cheerfulness was further discouraged on reaching the nunetak by the discovery that some favourite food—what it was I cannot now remember—had been left behind. At the time it seemed important.

While we rested a smoke of fog curled across the upper slopes and half an hour later, when we returned to the climb, we could see but a few yards ahead. Fortunately our earlier view had left us in little doubt as to our route. When we had advanced only a few hundred feet King, who was behind me on the climbing rope, sank to the waist into a wide crevasse. Neither the surface nor my probing ice-axe had given the
mountain prospect

least hint of its existence. Thus abruptly were we introduced to the peculiar snow conditions of the Beerenberg.

The greater part of the precipitation on the upper slopes of the mountain appears to be in the form of ‘hoar frost’ and ‘rime’, which build a brittle fibrous structure containing many cavities. The crust either holds or breaks. There is no intermediate sagging stage as with normal snow. Even when the covering is quite thin, there is often no trace of a crevasse line; and the rough hoar granules offer such friction to a prodding ice-axe shaft that they give a false impression of solidity. As the season advances, the surface layers, especially on the steeper slopes, are sloughed off in avalanches of the wind-slab type, and conditions become more like those on Alpine mountains.

In the end we became familiar with the foibles of Beerenberg; but on our first climb we were always meeting the unexpected, and we all made involuntary entries into crevasses. Ironically, Jennings, the glaciologist, scored the day’s record.

On me, though probably not on King, our first crevasse incident had an excellent effect. Hitherto the climb had been joyless; there had been nothing to keep attention at that keen level of expectancy I usually feel in the early stages of a climb. Almost I had felt that we were not on the flanks of a great mountain at all. But the first hint of a new problem awoke mountaineering sense and concentrated it tensely, nor for the next twelve hours did it relax. The cloud stayed with us while we climbed carefully upwards, and when we gained the rim of the crater towards 6 a.m. light scuds of snow were driven against our faces. But there were signs of clearing.

In plan the crater rim resembled a capital ‘U’ and we had gained it about half-way along the left-hand arm. The highest peak stood at the top of this arm, nearly a mile away, while the east peak was at the top of the right-hand arm. Between the two peaks was the icefall of the Weyprecht glacier to which I have already referred. The east peak was to be the goal of a later climb, and we now turned northwards towards the higher summit.

Below us the crater basin was a cauldron of boiling mist. Fantastic icicle-draped shapes—like the illustrations of a child’s winter tale—rose towards us, and we saw dimly the sweeping
Crater Rim, Beerenberg
precipices which flank the Weyprecht glacier. After we had followed the crater rim for half an hour the summit took form slowly from the mist—a mushroom of hoar frost, lace-like and so fretted by the wind that it seemed built of vapour rather than of ice.¹ One wondered that it could bear our weight.

A cruel wind drove us from the summit as soon as we had deposited the cosmic-ray apparatus, but when we had descended to the nunatak the sun gained a temporary victory over the clouds. This encouraged us to alter our route down the South glacier. There had been little to interest the glaciologist during the ascent, and we expected to learn more if we made our way across the glacier, through a field of considerable though apparently negotiable crevasses. This was, moreover, the shortest route to our camp.

A smooth concavity led us cheerfully to the glacier; but as soon as we came among the crevasses we began to doubt the wisdom of our choice. Our earlier experience of treacherous snow-crusts was only a foretaste of the glacier's duplicity, and we soon learned to suspect even the most innocent-looking surfaces. A hundred and twenty feet of rope could not span many of the crevasses and it was fortunate that we had a second rope. By spreading ourselves the maximum distance apart we avoided the greatest danger—that two of us should founder in the same crevasse at one time. Despite our long rope it was often necessary for the party to untie and re-tie, so that each member could be safeguarded.

The bridges spanning the largest crevasses usually took the form of slender plates of ice standing on edge. Often they tapered towards the top, forming knife-edge crests of unusually hard ice. I have vivid memories of those long slender flakes of ice, flanked by unplumbed blue abysses into which tumbled the chips from my axe. These large crevasses provided our most spectacular hazards but they were not the most dangerous. Seemingly innocent sweeps of level snow concealed smaller cavities, of which a prodding ice-axe sometimes gave no hint. We knew of their existence only when the hoar crust collapsed beneath our feet. I was myself fortunate to fall only once into such a trap.

¹ See photograph facing page 127.
Beyond one of the longest and most awkward ice bridges I came gratefully to a level snow platform. After testing it carefully, I shouted that I was ready for the man next on the rope to cross. As I spoke the snow on which I stood collapsed and I found myself in a small icicle-draped grotto; it was beautiful but rather cramped. My axe had jammed beneath my arm-pit giving firm anchorage, and a glance showed that it would be easy to climb out. Before doing so, I paused for breath, sucked an icicle, and enjoyed the respite from the glacier glare. It did not occur to me that my companions would be more perturbed than I was, but when I regained open air, perhaps two minutes later, it seemed that people had never before been so pleased to see me. Increasingly cautious we continued until after many adventures we gained the western flank of the glacier.

Gentle moraine and grass slopes now led down to our camp, and returning bad weather counselled speed. But our best pace could not outrun the storm, and towards 2 P.M., after an absence of twenty hours, we stumbled sodden and tired into our tents. Soon we were gulping gratefully the hot food Wellington had prepared against our return.

We had reached our peak, seen many things, and were now safely again in camp; but the climb seemed curiously incomplete, giving less satisfaction than I had expected. For this I blame the midnight sun. Starting, climbing and returning in daylight, it had seemed strangely without beginning and without end. I began to realize the importance of the toiling hours before sunrise in shaping our enjoyment of alpine days. Freedom from the danger of being benighted seemed scant compensation.

Three weeks later we again gathered at Fishburn. Our purpose now was to travel round Beerenberg. King, Jennings, Ward, Seligman and I were in the party. All the sciences were represented, for Jennings held a watching brief for Geology. The weight of eight days' stores seemed negligible beside our scientific paraphernalia.

We travelled in a shroud of dense fog; until, near Cape Neill, we passed in a few expectant moments from grey murk into a sunny morning. We were near the cliff top; close to our
heads the sea-birds wheeled endlessly while a thousand feet below the ocean lay, a blue motionless carpet. Before us the eastern flank of Beerenberg swept northwards, gently concave, its entire face open to our gaze. It was a noble view. Mountains and ocean, the two greatest features on the earth’s surface, gain added grandeur by their combination, and in this scene they were perfectly combined: the great mass of Beerenberg, mist-garlanded, falling in shattered cliffs to a narrow ribbon of gold-brown sand edged with a line of white surf; then the ocean, blue or silver-grey as the clouds patterned it, stretching to the far horizon.

At the northern corner of the island was a headland of low lava fields where we planned to camp. Towards it the beach offered the only possible route, and a series of scree slopes and rocky couloirs led us downwards amid a clatter of falling stones. The cliffs above us were even more loose than was usual on the Jan Mayen coast. Several times we saw furrows gouged in the sand, by falling boulders, since the last high tide. But we were lucky; no stones fell near us.

At several points the cliffs were broached by glacier tongues, which had forced their way downwards to the beach. From a distance they had seemed white and living, but drawing closer we found them ‘dead’ and shrunken, lacking beauty and activity. Grey moraine bounded their margins; hollows and crevasses were choked with debris; everywhere the surface was drab and soiled.

Late afternoon brought us to Clandeboy Cove, the scene of Dufferin’s landing; but though we sought for his wooden Ariadne we found no sign of her. Admittedly our search was not very intensive; but the cliffs were particularly loose, and it would have been surprising if the falling rocks had not swept the figurehead away.

At 10 P.M. we reached the gentler lava fields, and pitched our tents. It had been a strenuous day and next morning we were late astir. Visibility was only a few feet, but, optimistic of improvement, King, Jennings and I crossed the lava fields which lay between us and East Cross bay on the northern coast. Our optimism was rewarded by a brief clearing. For
nearly two miles the cliffs swept round to the Kjerulf glacier, which jutted out into deep water, barring more distant views. There was no apparent passage to the upper slopes, and when the cloud again closed in we groped our way back to camp.

Over the evening meal we reviewed our plans. Our primary objective was to explore the northern face of Beerenberg and to climb its virgin eastern peak. Today the weather had permitted little reconnaissance. What we had seen had not been encouraging, and if we were delayed further we feared that lack of supplies would prevent us completing the journey. King therefore decided that he, Ward and Seligman would return to the base camp by our outward route, unless the weather improved on the following morning. This would leave Jennings and me, with provisions for nearly a week, to complete our task.

When we awoke next day there were no hopeful signs in the sky so King set off homewards with his party, and Jennings and I moved our camp to East Cross bay. The lava fields were densely covered with mosses and lichens, and we travelled uncomfortably with our loads. Either we explored the moss at each step, which was irksome on such gentle-looking country, or we strode onwards till the next ankle-wrenching slip, which was never far ahead. Half-way through the march the frame of my rucksack collapsed, the result of damage on the Montonvers railway the year before. I stumbled onwards, cursing quietly at the clumsiness of French porters; it seemed to smooth the lava floes beneath my feet.

Towards evening the weather cleared, and before our delighted eyes the clouds rolled back from the shining cone of Beerenberg. Our nearness to it distorted perspective, but it seemed that the only route to the peak was from the northern coast. We had with us a poor photograph taken from several miles out at sea, and this encouraged us to believe that we could climb the mountain from this direction if only we could pass the coastal cliffs. On our ability to do so hung the success or failure of our plan.

Our daily routine was now independent of solar time. When we made our evening meal the sun was low on the
northern horizon, and it was 10 A.M. when we again left camp. Clear sunlight encouraged us, and we travelled eastward along a hard and comfortable tidal beach. Above us rose the cliff-battlement, which we scanned for a breach whereby we might gain the upper slopes. We went past the Svend Fohn glacier and across the Kjerulf without seeing any possible route. The glaciers descended in icefalls which would have involved prolonged step-cutting. Moreover, after our experience on the South glacier I had an aversion to the glacier basins of Beerenberg, especially when in a party of two.

The cliffs between the glaciers were too steep and treacherous to be climbed safely, and hope had nearly died when we espied a narrow funnel leading upwards into the cliff. In it lay a snowfield, shaped like a map of South America, with the narrow Isthmus of Panama disappearing into a curving cleft only a few hundred feet from the crest. Hopefully we climbed upwards. The couloir narrowed and steepened; ice-polished walls hemmed us in. We cut our steps upwards, fearful that we should come face to face with an impassable wall. But the couloir held, and began to widen, the angle decreased, and soon we stood upon a gentle snowfield. We had found the key to the east peak of Beerenberg.

In a few minutes the entire northern face of the mountain burst into view. The graceful cone of the east peak glistened in the sunlight, and dwarfed to insignificance the higher but more distant western summit which we already knew. Our onward route lay plainly before us. The ridge curved gently upwards to within a thousand feet of the summit, where a naked bergschrund appeared to be the one remaining climbing problem. The weather was perfect. The peak, so remote an hour ago, now seemed already ours; we halted for food and to admire the view.

Below us rock fell precipitously for perhaps seven hundred feet to the Weyprecht glacier, of which the whole course was now visible. High above us the upper icefall plunged downwards from the crater basin. It swept towards us, then passing below the ridge on which we sat it bore onwards to the ocean. As we watched, a great block of ice tumbled from its snout.
MOUNTAIN PROSPECT

into the blue water; a plume of spray rose in the sunlight and a flotilla of small icebergs drifted eastward slowly with the tide. Throughout its course the glacier was unsullied by moraine. On its upper slopes hoar crusts gave an appearance of smoothness; but lower down the entire surface was riven into small seracs, like innumerable white crystals set closely in a pale-blue matrix.

Three and a half hours carried us up the five thousand feet of gentle snow slopes which lay between us and the final cone. Now the mountain became steeper and the tracks of avalanches restricted our choice of routes. Cutting hand- and foot-holds in the steep ice, we approached a bulging corner. It was pleasant to feel our axes biting crisply as on an alpine ridge, and stimulating to look between our feet at the yawning crevasses of the Svend Fohn glacier over two thousand feet below.

The gentler slopes above were less enjoyable. Laminated hoar overlaid the ice, and even though we broke each step through into the firmer layers, I had an uneasy feeling that if either of us slipped, the entire crust would shear off. But nothing untoward happened, and an upward traverse soon brought us to the crater rim, close to the summit.

After the bizarre shape of the western peak it was rather disappointing to find that the eastern summit was in no way unusual. Nor was the view so impressive; but we saw one memorable sight—a small field of pack-ice perhaps two miles distant. Mist-banks lay heavily on the ocean so that we could not judge accurately the extent of the pack, but the main floe seemed several hundred yards long. This was the only time we saw ice floes during the expedition.

I remember the descent for a nightmare experience. The bulge leading down to the bergschrund demanded caution, and for perhaps twenty minutes I clung to a chilly and uncomfortable stance, belaying, while Jennings descended. This pause played havoc in muscles fatigued by long step-breaking; and when I attempted to move, my right leg froze with cramp. I nearly fell from my steps; then slowly, and with surprise, regained my balance. Jennings was obliquely below me and he could have helped little had I fallen. This uncomforting
Peak Hakluyt, Beerenberg
Beerenberg from the north: *above*: Peak Hakluyt, Peak Haakon (partly in cloud) and Weyprecht Glacier: *below*: Svend Fohn and Kjerulf Glaciers
thought passed through my mind as I tried without success to urge cooperation from my limb. The sweeping ice-face below me now seemed ominous in a way I had not noticed earlier.

It was difficult to massage my leg while clinging to the face, but after a time it was induced to serve reasonably as a prop if kept braced; but when I bent my knee the spasms returned. I therefore cut a second line of steps below those on which I stood, and descended swinging my leg, pendulum-wise, from one series to the other. Normal muscular action was easily restored when I gained smoother ground, and soon we were descending the long gentle ridge, to regain our camp at 4 A.M. We were ravenous for food and sleep, and decided to rest for twenty-four hours.

During the climb we had had a clear view along the coast for several miles to the west; it was apparent that the Weyprecht glacier was the main obstacle to the final part of our circuit of Beerenberg, but given good weather we thought we could make the crossing. When we awoke in the late afternoon after our climb we saw signs of approaching storm. So we broke camp hurriedly and at 10 P.M. reached the glacier some half a mile from its snout.

Our route across the glacier was never clear for more than a few yards. Almost continuous step-cutting was necessary. Several times it seemed that further progress was impossible. Uncertainty kept interest at fever-pitch, disinclining us to rest, and in an hour and a half we made perhaps four hundred yards. Conditions then became suddenly easier, tension relaxed, and we had leisure to take stock of ourselves and our surroundings. For the first time I realized that my shoulders were aching furiously under my pack; but the scene was so remarkable that bodily discomfort was quickly forgotten.

During the evening a jigsaw of high clouds had gradually built together, until the entire sky was now covered. The air was clear and windless. Grey light drained the landscape of all colour, exaggerating distance, and the motionless sea seemed infinitely vast. On the northern horizon a glint of crimson showed the low midnight sun, the one hint of colour in an otherwise monochrome scene. No sound rose from the ocean,
and even the sea-birds which usually wheeled about our heads were sleeping. The deep, infinite silence, such as I have since yearned for in the tropic night, was broken only by periodic detonations, crisp and unechoing, of ice snapping deep in the glacier. I had a strange feeling that the glacier and ourselves alone were real in the vast cold landscape. A fairy tale came to my mind of a giant who stirred in his slumber when human pygmies came plucking at his counterpane.

Suddenly, as we topped an icy hummock of ice, the spell was broken. A large ship—obviously a cruising liner—came into view steaming slowly eastwards close to the shore. For a moment we stood, amazed; then we waved and shouted. As if in answer three puffs of steam rose by the ship's funnel and three siren blasts smote our ears. Soon the ship turned northwards, increased her speed and left us to our task.

Beyond the Weyprecht glacier we travelled for some miles along a narrow beach of small uncomfortable boulders hemmed in between black cliffs and grey sea. A series of small headlands limited our view and we feared that the beach would end round each corner and force us to retreat. Not until we had travelled thus for nearly two hours did an ice tongue, cleaving the face, make possible an exit to the upper slopes. At 5 A.M. we camped gratefully on an open field of moss above the cliffs, and slept until midday. Then rather wearily we trudged onwards over dull gentle slopes, to reach the base camp at midnight. There we heard that the Atlantis, a cruising liner of the Royal Mail Line, had lain off the North Lagoon two days before—it was the ship that we had seen from the Weyprecht glacier.

Three weeks later came our final expedition on Beerenberg. Ashby, Ward, Wellington and I left the base camp late on a dull evening. Heavy fog lay on the mountain, and as we climbed it increased to light drizzle. Wellington alone seemed to enjoy our prospects, and his optimism was soon justified. Suddenly at four thousand feet we saw dimly before us a black silhouette, seemingly a rock outcrop not far distant. Then the mist stirred and parted; vision swept outwards, and the
A SUMMER IN THE ARCTIC

rock outcrop became the summit cone of Beerenberg sharply outlined against a pale-azure sky. In a dozen strides we entered a new realm, infinitely large and frigid. Our mist-damped hair froze, but the still air brought no unpleasant coldness; it merely stimulated us to advance.

Soon we looked out over an ocean of cloud which stretched unbroken to the far horizon. The season was so far advanced that the sun now touched the horizon at midnight. Sunset and sunrise were combined, no period of darkness intervening, and except where the mountain cast a long cone of shadow, the churning mist-crests were for the next hours aflame with colour.

The sunset glory was already far advanced when we escaped from the cloud, and the sky was flushed with crimson, which deepened and then again swelled, marking the boundary between day and day.... Slowly the crimson melted into orange, which in turn changed to paling tones of yellow. Then all colour died, and day grew stronger. Years before on the New Zealand slopes of Mt. Jackson I had seen the wonder of sunrise above clouds; but here the scale was infinitely more grand, the glory more prolonged.

Snow conditions were excellent, and we made rapid progress. Below us the cloud ocean still covered the lower parts of the mountain and the sea. Above, the sun shone from an unclouded sky. There was no wind, and we could enjoy the summit view at its best; the great sweep of the crater rim, glittering and hoar-draped; the level whiteness of the crater floor; the tangled icefalls of the Weyprecht glacier, hemmed by fierce cliffs, plunging downwards into the mist.

No individual feature of the view was of itself remarkable. In Switzerland are finer ice ridges in plenty; the Franz Josef in New Zealand has a vaster icefall; the Himalayas could dwarf the Beerenberg to insignificance. Had other peaks surrounded us it would have been a normal alpine view, though still magnificent. But there were no other peaks—there was only the Beerenberg. No contrasting feature defined its scale; it seemed to share the vastness of the sky and of the mist which stretched out infinitely to the horizon. No terrestrial measurement can convey that impression.
MOUNTAIN PROSPECT

Other factors also contributed to the particular quality of the scene; there was no life in it or motion save for the slowly uncoiling skeins of mist; no sound, save that of our own making. Perfection, it is said, is born of simplicity; and here was simplicity indeed. Some great mountain views confuse the mind by their vast detail—I was to see such scenes a year later in the Karakoram—but this was vastness and simplicity combined. Its effect was a sense of infinite solitude and tranquillity.

For a time our cameras clicked rapidly, then the impulse died and even Ashby’s geological hammer became silent. For a little longer we remained and then descended to plunge all too quickly into the grey mist.

Thus was our climbing happily ended. The mountain had been less difficult than we expected; but it had given us great enjoyment, as well as new and varied experience. It seemed to us that the west and east peaks were sufficiently distinct, both in character and position, to deserve separate names. A close reading of the record of Fotherby, who named the mountain ‘Hakluyt’, indicated that it was the eastern summit that he had seen. We therefore suggested that the name ‘Hakluyt’ be retained for this summit. ‘Haakon’, in honour of the Norwegian sovereign, was an appropriate name for the western peak—the highest summit in the Norwegian arctic. Royal approval was in due time given to these names.

We had been fortunate to make this ascent of Beerenberg. A hurricane roused us on the following morning, and when the clouds next parted, three days later, large drifts of new snow lay upon the upper slopes. Our expedition was nearly over, and the Polarbjørn, which was to carry us back to Norway, was already on her way from Greenland. Heavy seas made it impossible for us to embark at Jameson Bay, and our last three days on Jan Mayen were filled with toil, moving our stores and equipment to the North Lagoon.

Ten days later, aboard the familiar Vega on the North Sea, a charming old lady leaned across the dinner-table to enquire kindly, ‘And have you dear boys been hiking?’ Our arctic summer was ended.
Part V

THE KARAKORAM-HIMALAYA

Unless you are a mountaineer, an engineer, or a surveyor, the odds are that the great illumination will escape you, all your life; you may return to the grave without having ever known what it is like when the contour lines begin to sing together, like the Biblical stars.

C. E. MONTAGUE
The six months after our Jan Mayen expedition passed with happy busyness in London. There were results to be worked out, papers to be written, the research whereby I earned my keep to be kept up and, most exciting of all, the future to be planned. My Arctic summer had clarified my ambitions: I had found a promising field for botanical investigation and the expedition had proved to me that scientific work and mountain travel could be happily combined. My mind was made up. I wished to spend the next few years alternately on expeditions and in the laboratory evaluating my results. . . . Our return to England had been clouded by the Munich crisis but I had yet to realize that the chancelleries of Europe would decree a different destiny for my generation.

Both the Himalayas and Greenland attracted me but my plans were nebulous until a November afternoon when Eric Shipton asked me to join him in the Karakoram. I counted myself more than lucky. Shipton’s experience of high mountain travel in the Himalayas was unequalled. Every season but one since 1931 he had taken part in some major enterprise: four Everest expeditions, Smythe’s successful ascent of Kamet, and exploratory journeys to the Nanda Devi basin and the Karakoram. He had been the leader of the last two of these expeditions, also of the Mt. Everest Reconnaissance.

Exploration of the great ranges had become his dominant motive. Lecturing to the Royal Geographical Society after his first Karakoram expedition he said, ‘With such a vast area of unknown mountains to explore, the climbing of any of the countless peaks one sees offers little interest compared with the enthralling business of finding one’s way about the country and crossing passes which lead from one region of mystery to another’. Travelling through the ranges provided enough mountaineering to satisfy any normal taste.

The phrase ‘finding one’s way about’ means to Shipton more than simply travelling; it implies the recording and descrip-
tion of his journeys, the preparation of maps and the study of every aspect of the country which he or his companions may be competent to undertake—in short, understanding the mountains as widely as possible. And beyond all this Shipton possessed that rare restraining yet encouraging quality which is the sign of a natural leader. F. S. Smythe wrote after the Kamet expedition, 'No one who climbs with Shipton can remain pessimistic, for he imparts an imperturbability and confidence into a day's work which are in themselves a guarantee of success'. Here was a leader under whom my aspiration to combine botanical work with exploration could be achieved—from whom in addition I could learn the methods of reconnaissance surveying. It had long been my secret ambition to travel with him.

In Blank on the Map, the account of his first Karakoram expedition, Shipton quoted the passage by C. E. Montague which I have placed on page 145. I remember his remarking that Montague had conveyed precisely his own feeling. I quote the same passage to introduce the account of my journey with Shipton, partly because of this association, partly because of my own admiration of Montague which dates from my undergraduate days in New Zealand. I was led to him by Dr. H. D. Skinner, the New Zealand anthropologist, just after my visit to the Rees valley with J. A. Sim. In Hanging Garden Gully, the story of an eccentrically enthusiastic botanist, was my introduction; by a coincidence I found years later that the climber from whom Montague drew his botanist was an old acquaintance of my parents and incidentally entirely uninterested in plants! But that was a small point, and in Montague's more serious writings I found an almost uncanny expression of feelings which until I read him I knew dimly but was quite unable to translate into words.

The expedition to which Shipton invited me was to last fifteen months—two summers and one winter. Surveying was the primary scientific object and for this purpose financial support had already been promised by the Survey of India and the Royal Geographical Society. Shipton encouraged me to plan whatever botanical work could be combined with this
THE KARAKORAM-HIMALAYA

programme, making only one reservation, that any extra expense incurred should be met by botanical funds. Initially plans were for a party of three—Shipton, a surveyor, and myself, with nine experienced Sherpas as permanent porters. It was hoped, in view of the length of our journey, to include also a doctor. This as well as my botanical work was made possible by additional grants from the Bentham-Moxom Fund and the British Museum (Natural History); the Royal Botanic Gardens, Kew; Mr. R. W. Lloyd and Mr. A. Courtauld.

At once I began making my botanical plans. The flora of the Karakoram was very incompletely known and a wide field lay open for investigation. Collecting specimens and making field notes would be an important part of my work but I hoped also to make a study of plant growth, similar to that which I had attempted on Jan Mayen. The length of our journey and transport difficulties would set very narrow limits to my equipment, but I was again helped greatly by Professor F. G. Gregory and by Dr. Ramsbottom, Keeper in Botany at the British Museum.

Meanwhile the general arrangements of the expedition progressed; porters were recruited by letter from Darjeeling; equipment and stores were ordered, passages were booked and the hundred other small but fascinating items of preparation were one by one decided. Shipton is a firm believer in ‘light travel’ and any of the old school of travellers would have been astonished by the smallness of our preparations. Every item not essential was rejected, but the choice of essential items received great care. Since the Sherpas were to share our life, their equipment was to be as far as possible of similar quality to our own.

For our glacier journeys in the summer the personal kit of each man would be limited to approximately thirty pounds, including clothing, sleeping-bags, cameras, diaries and notebooks. Thus, for a season, we would escape the wardrobe problems of civilized living; having but a single shirt, there would be no difficulty in deciding what to wear. The same policy was applied to food. So long as we were within reach of villages we could ‘live on the country’ to a large extent. Only when
no local supplies were available would we be dependent on food brought from England. In the choice of this, high food value and low water content were the primary considerations. Tins were anathema by reason of their weight; pemmican, slab chocolate and a little oatmeal were our only tinned articles.

Other stores we brought from England were Cheddar loaf cheeses, bacon and sugar. The bacon sides were sealed hermetically in celluloid-like wrappings, light and reasonably strong, which kept them in perfect condition. Of sugar our basic ration was eight ounces per day—a quarter of the total ration in weight. This quantity we found too little rather than too much. Above the altitude of fifteen or sixteen thousand feet, desire for fats decreases with a correspondingly increased liking for sugar, and I, who normally disliked sweet tea, came to use as many heaped spoonfuls as our rations permitted. This physiological reaction is a general experience of Himalayan travellers.

When at length our party of four Europeans and nine Sherpas marched towards Gilgit, our stores and equipment for a year were carried by eighteen mules. As our baggage included clothing of Arctic weight, for use in the winter, and many loads of scientific equipment, it will be seen that we carried little that was unnecessary. The full value of this policy of light travel did not, however, become apparent until we left the last villages and entered the uninhabited country which surrounds the great glaciers. A coolie eats two pounds of food in a day, and the load he carries is sixty pounds. Thus one man's load is consumed by thirty coolies every day; or, viewing the problem from a different angle, if a porter is employed for three weeks in country where no food is available only eighteen pounds of his load benefits his employer; he himself consumes the other forty-two pounds. Moreover, as he must be provisioned for his journey home, three weeks' employment means but fourteen outward marches, it being assumed that unladen he will double his speed on the return journey.

Thus when travelling through uninhabited country any increase in kit or in the length of the journey involves not only
extra porters to carry useful loads, but also men to carry food for these porters, and so on—like the fleas in the nursery rhyme—until the endless porter columns of luxury expeditions develop. And the trouble does not end there. A large number of porters does not merely mean increased expense; it means also increased difficulty in purchasing food, increased worries in finding camp sites, increased likelihood of disaffection, and at the same time greatly reduced mobility. In short, enjoyment is inversely proportional to the number of porters employed.

Light travel is, however, not simply a matter of reducing the length of kit and equipment lists; it is axiomatic that the fewer articles taken the greater is the importance of each. Should any article fail there is nothing to replace it; the smallest detail is vital. Lightness, durability and convenience are the standards which determine utility on an expedition such as ours; a balance must be struck between them. Alpine climbers can sacrifice durability for lightness; their expeditions are short and, if expense is no objection, articles can be frequently replaced. But our requirements were different; we were to make a lengthy journey and our equipment would be roughly handled by porters as well as by ourselves. Durability was vital, it could have been ensured most easily by using heavily reinforced articles. But lightness was only less important than durability. These two conflicting requirements could be reconciled in one way only—by using only materials of the finest quality. That was the principle on which Shipton equipped the expedition: if an article was indispensable only the very best was good enough; if it could be dispensed with it was struck off the list. Some essential articles like primus stoves and climbing ropes were perforce of standard types, there being few alternatives. But other articles such as tents, sleeping-bags, windproof suits and light yet warm clothing are made in wide variety. Shipton’s experience told him not only exactly what was needed but also where it could be best obtained.

Our tents were outstandingly successful; even in retrospect I cannot see how they could have been improved. The majority were of the ‘Mummery’ type, with several ideas of Shipton’s added. Mummery tents are oblong in plan and slope
upwards from ground level at the sides to a horizontal ridge; there are no perpendicular side walls, and the tents are supported by two poles at each end, one along either edge of the sloping roof, the tops of the poles meeting at the ridge. As compared with tents supported by pairs of vertical poles they have the advantage of much greater rigidity, a consequent reduction in the number of guy lines necessary (a great advantage on steep ground), and greater ease in pitching. Our tents were made of Willesden proofed japa (a type of Egyptian cotton) with sewn-in ground-sheets of oil-proofed cloth. They were made in two sizes; the larger ones held two Europeans comfortably or four porters; the smaller ones normally held one less person. They weighed fourteen and eleven pounds respectively. Zip-fasteners were used to secure the tent doors; despite rough usage they gave no trouble. Canvas flaps and tapes were provided as a safeguard but they were never used. Drifting snow was completely excluded and we escaped the inconvenience of fumbling with frozen tapes. Another useful feature of the tents was their wide eaves, which consisted of strips of canvas eighteen inches wide, sewn along the sloping sides of the tents eighteen inches from the ground. The guy lines were attached to the outer edge of these strips. Rain and snow were thus kept away from the lower parts of the tent sides with which our sleeping-bags would come in contact; also shelter was provided for articles we could not accommodate inside. As important as the design of the tents was the high quality of workmanship in their construction; they were perfectly cut, and perfect cut is as important and as rare in a tent as in a suit. An inch too much or too little cloth causes wrinkling or strain, which in turn leads to leaks or tearing in high wind.

Our sleeping-bag sets were luxurious; they consisted of three quilted eiderdown bags of different thickness, one fitting inside the other. The outside bag was the thickest, the inner one the thinnest; thus by using all possible arrangements of the three bags singly or together six weights of bedding were possible. During the summer we intended to use only the inner and outer bags, the intermediate one being reserved for winter.
Some sleeping-bags are made with pillows and other elaborate fittings. When I use a bag of that type as often as not I wake up with the pillow on top of my head instead of underneath it, for the whole bag tends to turn when one turns over in sleep. The bags made for our expedition were much simpler and more sensible in design. They were cut wide and long; one just tucked in the opening of the bag much as one tucks the blankets of a normal bed; there was no worry of feeling for tapes. The bags weighed approximately four, two and one pounds each. On account of the air held between them they were considerably warmer than a single bag equalling the three of them in weight. In addition to sleeping-bags we carried small mattresses—some of kapok, some of sponge-rubber sheeting. These provided added insulation when we slept on glaciers.

A windproof suit and a pair of boots are the most important items of clothing for a mountaineer; next in importance to these is warm underclothing. Our windproof suits were beautiful and also practical: their beauty came from the pleasant tone of royal blue Grenfell cloth of which they were made. It was a useful colour also; it stood out well both on snow and rock. The trousers were long and wide cut, doing up with a zip. The legs were cut straight like ordinary trousers and they were provided at the bottom with tapes so that they could be cross-gartered up the calf; short puttees secured them to our boots. On hot marches we could roll our trousers up to above the knee, turning them into shorts; owing to the light material they were much less cumbersome than the turn-up shorts of the army in the tropics, though their appearance was faintly reminiscent of the bloomer girls who shocked our grandparents. The upper part of the windproof suit was a very loose and long smock provided with a cowl. Despite its thinness Grenfell cloth is hard wearing; a pair of trousers will, with careful patching, last nine months, a smock much longer.

Every mountaineer has his own pet theories about boots, and Shipton was undoubtedly wise in not restricting the choice of his party. None the less, before the expedition was
over I wished I had followed his example. He argued that no climbing boot remains waterproof for long and that the best thing to do was to use a light and inexpensive though reasonably strong pair; in fact ordinary porter’s boots. I on the other hand thought that heavy reinforcement was necessary, and I carried an additional pound’s weight on each foot. At the end of our journey my boots were only a little less dilapidated than his.

Very light hand-knitted Shetland woollen sweaters, pants, gloves and helmets kept us warm beneath our outer clothing. They were made by an old lady in Shetland who has a large mountaineering clientele. None of us had ever seen her but, judging by her letters, she was a charming motherly body, genuinely delighted that her woollens would keep us warm in remote places. The great advantage of Shetland wool is its lightness; the sweaters weighed four ounces.

Having decided what to carry, the next question is to decide in what to carry it. The use of boxes is deplored by thorough-going light travellers, even when they are to be carried on animals; but they are undoubtedly the best containers for many types of food, and for instruments they are indispensable. Plywood stores boxes, such as are almost universally used on polar travel, have, however, definite disadvantages in the Himalayas; unless they are heavily reinforced they stand up poorly to handling by porters, and if dropped for any distance they can be relied on to break open and scatter their contents widely. They are scarcely better protection than a sack. For these reasons we used few boxes and packed everything possible in bags. Rice, flour and even sugar were carried in this way.

Porters usually provide their own carrying ropes or thongs. In different parts of the Himalayas they are used in different ways. Some support the entire weight of their loads by a band placed round the forehead; others sling their loads from their shoulders. The Sherpas often combine both methods of suspension. The head-band seems to have its advantages, but one must be trained to it. I once carried sixty pounds of rice in this manner for perhaps a quarter of a mile, and had a peculiarly stiff neck for the next day and a half.
Carrying frames of the Bergen type, either fitted with a rucksack or provided with carrying straps to support boxes or bags, are frequently used. Undoubtedly they have the advantage that the load is kept away from the back; in consequence much perspiring is avoided. But frames have their disadvantages; perhaps I have been unfortunate, but I have never found one satisfactory for carrying more than a moderate load. If clothing, a tent or a sleeping-bag is available to pad my back, I much prefer a wide and deep canvas pack for weights of more than fifty pounds; the pack can be slung closer to the back, giving better balance, and the weight of the frame is avoided. But it is surprising how difficult it is to buy a well-slung rucksack. The elegant models of most shops sag outwards from the shoulders, but that is not necessary. The one I used in New Zealand had gradually evolved year by year with the cooperation of the local boot-maker; in the end a rather complicated strap adjustment made it balance equally well when I was carrying thirty pounds or eighty. Many times in the Himalayas I regretted the absence of that old Heath-Robinson pack.

Several of the articles of equipment I have described were expensive, yet the total cost of the expedition for six months, including passages to and from India for four people, was only £1,250. This was about a tenth of the cost of one of the old-fashioned cumbersome expeditions; light travel not only increases efficiency, it brings exploration within the reach of people who could not otherwise afford to take part in expeditions.
The spring of 1939 was a difficult time in which to organize an expedition. The chaos of Europe overshadowed us, and though we did not yet realize how great its menace was, its effect upon our planning was considerable. Many people found it difficult to reach decisions in those unsettled months, and it was not until three weeks before we were due to sail that our party was completed. Finally it consisted of Shipton; Peter Mott, surveyor; Eadric Fountaine, doctor; and myself. Shipton alone had visited the Himalayas before; Fountaine and Mott, however, had travelled in Greenland, the former with Wager in 1935–6, the latter on a couple of Oxford University expeditions.

Our final hectic days of preparation came and went and at the beginning of May the boat train bore us outward from Victoria. It was ten o'clock. Suburban trains were disgorging their morning shoals of business men, black-coated, black-hatted, clutching their morning papers. Six months hence, or nine or twelve, they would still be following the same routine while we, freed for a season from this narrow horizon, would recapture the art of real living, which is adventure. Unwillingly would I have exchanged my lot with any, even the most prosperous of them.

Newhaven, Dieppe, Paris came in familiar but exciting sequence; then Marseilles, where towards midnight of the following day we stood on the silent boat deck of the Strathaird. Leaning over the rail we saw barefooted Lascars loading the India mail, checking the bags with an age-old tally of notched sticks—it was the first faint breath of the East. Next morning we awoke to soft Mediterranean sunlight. The twelve-day passage to Bombay gave us little breath. The ship was crowded, at least we of the Second Class were, and in our stifling cabin Mott and I spent much of each day completing the records of our last year's trips. Then Fountaine gave us tiresome T.A.B. injections and Shipton taught us a few words.
of Hindustani. When the weather was calm we set up our survey instruments upon the Bridge, and Mott explained their use.

A sweltering noon brought us to Bombay where we transshipped to the Gulf steamer bound for Karachi. From there we would travel by train across the Sind Desert to Lahore and Rawalpindi, thence by road to Srinagar in Kashmir. We had chosen this route in preference to the more pleasant and direct overland journey from Bombay to save freightage on our baggage.

While we were checking our boxes on the Bombay wharf, hot, dusty and not in the best of tempers, the news reached me that a case of alcohol essential for my botanical work had been seized by the Customs. This was annoying and unexpected for Government had granted us a free Customs pass, and I rushed to the Customs House and my first experience of oriental bureaucracy. Only half an hour remained before the Karachi steamer sailed, but miraculously I obtained the necessary clearance from the ninth official to whom I was taken. It was now too late to collect the alcohol from the bonded store, and with considerable misgiving I had to leave it to be sent overland by rail.

The Gulf steamer was cool, empty and restful, but our journey across the Sind desert to Lahore was hotter and more dusty than anything I had ever known; at sunset on Lahore Station the thermometer stood at 108° Fahrenheit. The Rawalpindi train was not due to leave for four hours and to stretch our legs we walked towards the bazaar. We had not gone far before we were picked up by a military policeman who mistook us for troops straying beyond bounds. This happy accident led us to the troops' canteen at the railway station and a hard-bitten sergeant, ex-Elephant and Castle. Aided by ample 'M.B.', the local beer, we soon established our bona fides, and for the remainder of the evening our Kipling-esque captor entertained us with unusual, though for the most part unprintable, sidelights on Indian life. At length the Frontier Mail was signalled and we were seen aboard it with ceremony more befitting a quartet of sergeant-majors than our unmilitary selves.
In Rawalpindi, next morning, we chartered a bus and rattled off into the hills towards Murree where the Frontier Circle of the Survey of India made us welcome with long cooling draughts. At last we had escaped from the dust and heat of the plains. While Shipton and Mott talked technicalities, I was free to browse around Murree; it was my first taste of the Himalayan foothills, pine-clad, with occasional long views and glimpses of deep shaded valleys. We spent one night there and then at dawn piled back into the lorry, leaving Mott behind for further technical discussion.

The bus was obsolete and rattling, of a type familiar enough in India, though usually spurned by Europeans. A rigid caste system obtained; beside the driver was room for one or two passengers—'First Class' accommodation, with cushions perhaps one inch thick. Behind were one or two seats stretching from side to side of the bus, the 'Second Class', in which a mere half-inch of cushion protects the passenger's posterior. Behind again was the 'Third Class' of bare wooden seats. If memory serves, twenty-eight passengers were the official cargo, plus as much baggage as the bus could hold among the third class passengers or in great mounds upon the roof. All but the front two seats had been removed from our bus.

Our route lay downwards from Murree to the wide Jhelum valley, which the road follows to the Vale of Kashmir. It was big country through which we passed, foothills on the grand scale, and imagination raced ahead over the mountains to the high peaks whose grandeur I could not yet visualize.

In mid-afternoon the winding valley road gave place to a long straight highway lined with poplars; we had entered the Vale of Kashmir. Now, in late May, the glory of spring had passed, but irises still bloomed in shy patches and through the soft haze of afternoon we saw dimly the outlines of the encircling hills. But the rattling of the bus, the dust, and our cramped seats denied enjoyment, and the last hour of our journey seemed the longest of the day. Srinagar came slowly. Long lines of bullock-carts wrapped us in dust, but at last the bus halted at the gate of Forest Lodge. Our Sherpas, who had arrived two days before, gave Shipton a royal welcome. Within, our host
and hostess, Sir Peter and Lady Clutterbuck, awaited us. Soon we were drinking tea on a shaded lawn from a white-spread table. Once again we suddenly felt clean and cool.

This was the second time that Sir Peter and Lady Clutterbuck had given over their delightful home and garden to expedition preparations; Shipton's 1937 party was similarly entertained. We lived on a spacious lawn in large tents, lounges in front, bathrooms behind. A little distance off the Sherpas camped uproariously; in between, our stores were stacked beneath great trees. For a week the Clutterbucks could scarcely call their home their own, yet I have never known a warmer welcome, felt more at home, or sensed my own enjoyment so reciprocated by my hosts. Every corner of the day Lady Clutterbuck filled with tasks few others would have thought of for the Sherpas' comfort or our own.

There was much to do and we snatched only fleeting glimpses of the surrounding sights; of the old town, seamed by narrow squalid streets where tall wooden buildings lean towards the river; of the misty beauty of the Wular lake; of the ancient pleasure gardens of Shalimar where Mogul emperors once took their ease; of the more modern pleasure haunts. The days passed in sorting and repacking our stores and in long wrangles with the Kashmir Customs.

Our Customs pass through Kashmir State had been made to cover the 'equipment and personal belongings of Mr. E. E. Shipton only.' The little word 'only' was our stumbling-block. Authority was quite prepared to believe that all our stores, including several hundredweight of sugar, were for Shipton's exclusive use—which showed a sound and intimate knowledge of his tastes—but we could not convince them that even Shipton could require for his own purposes 14 double sleeping-bags, 24 pairs of boots or 9 tents. A large deposit was demanded, repayable when we left State territory; it far exceeded our resources. A cheque would be accepted only if it were drawn on a Srinagar bank. We had no such account, and there seemed no solution until a friend wrote one for us, and told his bankers that it should not be met. Officialdom
was satisfied; so were we. After we had left Kashmir the cheque was safely returned.

No sooner had these matters been happily adjusted than my precious alcohol arrived, blithely masquerading as a case of wine, a doubtful item for 'Mr. E. E. Shipton's personal use'; but the Customs had grown tired of our faces and with little difficulty we secured its release.

In the middle of these affairs Mott rejoined us, bringing two Indian surveyors whom the Survey of India had lent to the expedition. Their bulky Government equipment gave excellent scope for Shipton's ruthless policy of 'light travel'. We gathered to watch the fun and their baggage was eventually reduced to proportions similar to our own. Even their delightfully coloured beach umbrellas, intended to shelter instruments from the sun, were discarded; small 'gamps' filled their place. The senior of the two surveyors, Fazal Ellahi, a short and tubby Muslim, took rapidly to our ways and throughout our journeys did splendid work. It was hard to believe that his beautifully finished plane-table sheets had not been prepared in a drawing office.

Another companion now joined us: A. F. Betterton, the Kashmir secretary of the Himalayan Club, who was to travel with us for the first part of our journey. Betterton had recently retired after his allotted span of service in an Indian Government Department. The jungles of Central India and their wild life had for years been his enthusiasm; now, though greatly our senior, he grasped the opportunity of visiting the great glaciers with at least as much enthusiasm as ourselves. His intimate knowledge of Kashmir was to help us greatly. A later visitor to our party was to be Campbell Secord. He could leave England for only a short holiday, and a few weeks after our departure from Srinagar he caught us up and travelled with us for six weeks.

The Karakoram, whither we were bound, lay some one hundred and fifty miles to the north of the Vale of Kashmir, beyond the main Himalayan chain and the Indus valley. Near Karachi we had seen the Indus as a wide meandering river crossing the Sind desert, but when we saw it next, two thousand
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miles from its mouth, its character was very different. It now flowed in a deep and barren valley separating the Karakoram and the main Himalaya, the two greatest ranges on the earth’s surface. The mountains to the south of the upper Indus, which culminate in Nanga Parbat, concern this narrative little, but some general description of the tangled country to the north is necessary to provide a background for the next chapters.

The Karakoram have been described as the ‘whitest’ of all ranges. They contain the greatest concentration of high peaks on the earth’s surface, and, with one exception, the four largest glaciers in temperate regions. Their southern flanks feed the Indus; to the north flow great rivers which fade to nothingness in the wide deserts of Central Asia. They are part of the main Asiatic watershed.

The Karakoram lie considerably further from the Equator than the Central Himalaya, and their character is consequently more severe. Glaciation extends to a lower altitude and, by contrast to the verdant valleys which have attracted many to Sikkim, the Karakoram support a comparatively scant vegetation. These circumstances, together with the length of time necessary to reach the Karakoram, have resulted in them being still largely unexplored. The vast glacier systems which lie in the southern flank of the range—the Siachen, Baltoro, Biafo and Hispar—have all been shown on maps for many years but, with the exception of the Baltoro, none had been surveyed accurately at the time of our journey.

The northern side of the range—that which descends towards the deserts of Central Asia—is still less known. Two expeditions, Kenneth Mason’s in 1926 and Shi ton’s eleven years later, surveyed several thousand square miles of most difficult country but large areas remained blank upon the maps.

It is unnecessary here to trace the history of Karakoram exploration in detail: the literature contains records of many important journeys, from those of Younghusband’s in 1887 and 1889 and Martin Conway in 1892, Mr. and Mrs. Bullock-Workman’s in the early years of the present century, to the more recent travels of the Duke of the Abruzzi, Dr. de Filippi,
the Duke of Spoleto and Dr. and Mrs. Visser. The greatness of the range and the difficulties of travel in it are indicated by the fact that even after the visits of so many distinguished travellers many thousand square miles of country remained completely unexplored.

Few serious attempts have been made to scale the high peaks, though two American expeditions have attempted K2, the second highest of all mountains, and French climbers have attempted Gasherbrum (the ‘Hidden Peak’). In 1938 a British party visited Masherbrum and reached a considerable altitude despite bad weather. None of the major summits have however been reached.

As if this great network of peaks did not hold enough mystery, a halo of legends, some true, many false, has been spun around it. Oldest are the legends of ancient routes across passes, now inaccessible to all but trained mountaineers. The Aghil pass, which has appeared in literature from time to time since Younghusband's remarkable journey from Pekin to India in 1887, is such a one. The Nushik La which enters later into this narrative is another. Recent decades have seen remarkable glacial activity and the advancing ice has closed many old routes. Their memory still lingers in the neighbouring valleys, and to rediscover them is a fascinating opportunity for the present-day explorer.

Newer and more fantastic are the legends of a great central ice-cap or 'snow-lake' similar to those of Polar regions, and of a glacier with no outlet at all from which the accumulating ice dissipates by processes inexplicable by modern physics. The former of these phenomena was reported by Martin Conway (later Lord Conway), the latter by Mr. and Mrs. Bullock-Workman. Heated dispute in the grand manner, now unfortunately out of fashion, greeted these claims but it was not until 1937 that they were both disproved by W. H. Tilman, a member of Shipton's expedition. He found that the Snow Lake was only a huge névé, that of the Biafo glacier; while the fabulous exitless glacier was drained by a stream in no way remarkable. Tilman, however, made his own contribution to legend, reporting in considerable detail a very plausible
A Karakoram watershed (between Biafo and Khurdopin Glaciers, see page 231)
Abominable Snowman, hungry for human prey, which strutted the snowfields of the one-time ice-cap.

From Srinagar our route lay along the Gilgit Road, across the Himalaya and the Indus valley and through Gilgit to Nagir at the south-western end of the Karakoram. Thence we would travel during the summer to the Hispar and Biafo glacier systems, completing as far as possible the exploration of these and the neighbouring lesser glaciers. In the autumn, after replenishing our stores in Gilgit, we would cross the Shimshal pass to the northern slopes of the range and, when the warming weather of spring permitted, travel north-east through largely unknown country. After linking our surveys with those of Kenneth Mason and of Shipton's earlier expedition we would travel back across the ranges to Leh in the upper Indus, some two hundred and fifty miles distant from Shimshal.

One of the advantages of Shipton's plan to winter among the mountains was particularly important. The melting snow of early summer swells the rivers till they become unfordable obstacles. Thus it is only possible to travel freely early in the season. Previous expeditions had of necessity delayed their departure from India until winter snow had melted on the southern passes. Their activities had in consequence been greatly impeded. We, on the other hand, would gain an opportunity for several months of unhindered exploration in the untrodden trans-Karakoram in addition to the interesting experience of wintering among the mountains. To these adventures the Gilgit Road would lead us—or so it then seemed.
It is a fashion of some modern travellers to ignore in their writings all familiar scenes. Over well-beaten tracks they hurry and their books begin at the last civilized outpost through which they pass. Familiarity, bred of easy transport, encourages us to neglect the opening cadence. Perhaps some day we will reach our base camps by aeroplane or parachute in a single bound from Bombay, Delhi or London, but I rejoice in being still so old-fashioned that I find each outward step an integral part of experience, without which a journey would be incomplete in memory or in the telling.

I have regretted the unwritten first chapters of many travel books, and one of the passages of Himalayan literature which has given me most pleasure is the opening of Conway's *Climbing and Exploration in the Karakoram-Himalayas*—Fenchurch Street Station on a wet evening, then the boat train, the liner, the first touch of the East, the horizon opening wider and wider until at last he reaches the great mountains. Thus I make no apology for describing the familiar setting of our outward marches, though what I recount has often been better told.

In early June we left Srinagar and the warm drowsiness of the Kashmir summer. Cars carried us over the white, tree-lined road to Bandipura where the Gilgit Road climbs from the Kashmir vale. In the shade of a giant chenar tree, Lady Clutterbuck presided over a last elegant picnic lunch. A few yards away our pack animals, their attendants and the Sherpas made loud confusion. Soon we were climbing upwards towards the pine woods of Tragbal. Flooded rice-fields patterned the lower slopes and behind us the dreamy outline of the Wular lake faded to a soft uncertain distance. The path bore us upwards until towards evening we came to the cool pleasantness of Tragbal, some five thousand feet above Bandipura. In front of the dak bungalow we lit a fire of scented pine logs and enjoyed the crispness of our first evening among the hills,
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the almost forgotten embrace of woollen sweaters, and the cosiness of our sleeping-bags beneath the stars.

The Gilgit Road, our route for the next fortnight, is an age-old highway. It leads from Kashmir across the Himalaya and through Gilgit, the last outpost of British influence, to Kashgar in Turkistan. Once it was the main link between Kashmir and Central Asia, the route of trade, of military enterprise, of adventure. More recently the Leh-Karakoram pass route has robbed it of much traffic. Its military importance also has declined, for the country through which it passes has known peace during the last fifty years. None the less it is still a busy route from the day in spring when the passes are opened, until the autumn snowfalls close them for the season.

The years of peace have seen much improvement in the road. Good bridges have been built and obstructions have been cleared with explosives. These things apart, the West has affected it little. Trade goes on in the immemorial fashion of the East. Merchants from Turkistan, dignified, bearded, clad in rough hand-spun clothing, still lead their slow caravans, untroubled by the problems of modern commerce. When the traveller leaves his motor car at Bandipura and marches towards Gilgit the centuries roll back and he sees men living as their fathers lived two, three, four centuries ago. Only the single link of a telephone line, borne on precarious poles, recalls the modern living of the plains.

Our second march led us to the open grass slopes of Tragbal pass and then again downward through pine woods, to a valley where we camped close to a small village. Here for the first time we came close to the poverty and misery of the peasants. Our doctor was besieged by the sick, miserable and hopeless, among them a leper, hideous in the extremity of his disease. Yet we were only two marches from Srinagar.

Two further days brought us to a camp among pine woods below Kamri pass. We had chosen this route across the Himalayan watershed in preference to the rather lower and more frequented Burzil pass, because it lay closer to Nanga Parbat and promised finer views. We spread our sleeping-bags upon a terrace among pine trees pleasantly cushioned by
pine needles. The last two nights we had camped in warm dusty valleys; tonight made a delightful contrast. Everyone was in high spirits. Pinzho, the recognized buffoon of the Sherpas, expressed his enjoyment by extraordinary and ape-like tree climbings. Theoretically he climbed to lop off dry branches for the fire, but in fact that was a mere excuse for what psychologists call the expression of his ego. An insufficiency of wood resulted and the men set about felling small trees with their kukris. I offered to help and Pinzho, who had now temporarily returned to ground, handed me a kukri. With the unaccustomed curved blade I made bad progress; before my tree was down Pinzho had felled at least a couple. Not until I had completed my job did I realize that he had given me a kukri half the size and twice as blunt as his own!

I record this trivial incident because occasions such as this played an important part in building happy relations between ourselves and the Sherpas. Few climbers on their first visit to the Himalaya can have been more favourably placed in this regard than Mott, Fountaine and myself. Our nine Sherpas were hand-picked. Shipton was to them the 'burra sahib'. They respected him more than any other living climber. We were his friends; that gave us great prestige. I wondered how I could live up to this position, especially with the added difficulty of language. At first there was a certain shyness on both sides, but it was quickly overcome. The Sherpas' sense of fun—so delicately judged that it never gives offence—was the foundation of our understanding.

Himalayan literature abounds in tributes to the Sherpas, to their endurance, their devotion, their humour; but only by travelling with them can one realize how fully this reputation is deserved. What we ourselves owed to them will appear from the pages which follow.

Like the Gurkhas, the Sherpas are a Nepalese people; in appearance and general character the two races have much in common. They are both small of stature, rarely exceeding five feet six inches in height, and they have the flat nose typical of Mongols. Courage, good humour and a capacity for un-
bounded loyalty are the outstanding elements of their character. Their physical endurance far exceeds that of the average European.

But despite these similarities there are, however, many differences between them. The Gurkhas, who come from central and southern Nepal, are of mixed Mongolian and Indian stock, the result of Rajput invasion, and they are Hindus. The Sherpas—a less numerous people—are by contrast of almost pure Mongolian blood. The remoteness of their home in Sola Chombu, close under Mt. Everest, spared them from the Rajput warriors; and they have retained, nominally at any rate, the Buddhist faith.

Prior to 1922 they had little contact with the outer world but in that year Brigadier-General the Hon. C. G. Bruce, whose knowledge of Himalayan peoples was probably greater than that of any other man, chose them as porters for the Mt. Everest Expedition. The years since have shown how greatly they justified his choice; major expeditions are today scarcely complete without them. However, it is well to remember that the Sherpas are ordinary mortals; there are bad ones, besides good ones, as in all races.

Many of us, on first meeting Sherpas, have been surprised by their smallness. Until one has seen them in action it is hard to believe that men so small can carry such huge loads, but after travelling with them one knows that, mere inches apart, their stature among the hills at least equals ours.

Their contact with European expeditions has led them to discard their picturesque traditional dress but, judging by the photographs they showed us, their wives are more conservative. Two of our men still wore their hair in the traditional manner—long and plaited like a schoolgirl's—but all the others had adopted the European style. On sentimental grounds the abandonment of traditional customs may be deplored and the imitation of European dress has often been a symptom of declining vigour in Eastern peoples. But this is not true of the Sherpas. Their motive in copying our ways is purely utilitarian; it would be unreasonable to wish them otherwise. Shipton's popularity had led the best of the Sherpas to
volunteer for our service, even though a foreign expedition had offered wages much higher than we could afford. Angtarkay, head Sherpa on Everest the previous year and on Shipton's earlier Karakoram expedition, was in charge. Lhakpa Tensing and Lobsang were other well-known names, but from the most to the least experienced they all did valiantly. My own servant was Gyalgen Myckje, one of the younger men but already with a good record. As the summer advanced I came to know and to appreciate him greatly; his almost constant smile is among my most vivid memories of our journeys.

After our night in the pine woods below Kamri pass we rose early and dawn found us approaching the pass, 13,500 feet high. Winter snow still lay in hollows but on the sunny slopes was the delicate beauty of the first flowers of the year. June was half over but among these mountains it was the month of spring. Everywhere was the evanescent freshness of life returning after the long winter. For me the scene held a double charm; the fading summer of the plains was still fresh in memory, and I now saw for the first time the alpine flora of the Himalaya.

Expectantly we continued to the pass but, though the sky was clear, the view disappointed me. The great whiteness of Nanga Parbat stood before us, but a foreground of flat brown ridges denied any true impression of height; it seemed scarcely higher than a major Alpine or New Zealand peak.

We descended to a tributary of the Astor river which flows to the Indus, and for the next four days followed its course in slow stages. Our leisurely pack train made double-marching impossible, even had we desired to, and we lazed onwards enjoying the sights of the road, the scenery, and the peoples through whose villages we passed.

As we approached the Indus the scenery around us became wilder and more barren. The pine woods of our earlier marches were far behind and we passed through arid treeless valleys. Bunji, where we reached the Indus, is barely 3,500 feet above sea level. As we descended to it the temperature rose. Our throats were parched by the dust of the road but
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always, urging us onwards, was the thought of the next village, the promise of cool greenness and shade.

In this country irrigation is an art older than memory. Narrow channels, sometimes several miles in length, lead the water of mountain torrents to the village fields. They are marvels of primitive engineering.

The width of the channels depends on the area to be irrigated but on the average they are perhaps eighteen inches square in cross section. Often the ground is so steep and broken that stone causeways are necessary as foundations for the channels. Sometimes considerable rock faces intervene, and the water is carried—perhaps for many hundred yards—in pipes of hollowed wood on precarious scaffolding. But whatever difficulties have to be overcome, the channels are maintained at a uniform and gentle gradient. Even with modern surveying equipment it would be difficult to better the layout. Wherever there is water there is rich verdure. The width of the channel separated arid hillsides from lush fields; shimmering glare from the deep shade of trees; parching heat from the cool freshness of an English spring.

It was the season of mulberries, larger and sweeter than any I had previously seen, and as we lay feasting beneath the trees we watched the peasantry tilling their fields with wooden ploughs, which called up echoes of Old Testament farmers. Europe, barely a month behind us, had sunk far below the horizon. So remote it seemed that we cared little for listening to the news on a small wireless set which formed part of our surveying equipment.

At length a hot noon brought us to Gilgit, an oasis of green larger than any we had yet visited. At the rest-house close to the old mud and stone fort, we stopped for two days, separating our summer and winter stores. The latter were to remain in Gilgit until autumn.

Eight British officers were normally stationed in Gilgit; the Political Agent and his Assistant; the officer commanding the Gilgit Scouts, his second in command and a subaltern; two medical officers, and a sapper officer in charge of public work.

Two weeks before our visit Major Galbraith, the Political
Agent, and his wife had been drowned while using a collapsible canoe in the fierce waters of the Hunza river; patrols were still seeking their bodies along the river-bank. The Galbraiths had been universally popular and their loss cast great sadness over the close-knit Gilgit community. But even this could not prevent Gilgit from welcoming us with that especial warmth of hospitality which has made it famous among travellers. On one evening we were entertained by the Medical Officer and his wife; on the other by Captain Keith Battye, the Acting Political Agent, and Mrs. Battye. Thus for two nights we left our primitive expedition living, though not our equally primitive clothing. I have unreal memories of perfectly laid dining tables set out on cool spacious lawns, with moonlit hills peeping through the nearer silhouettes of trees.

As we returned from the first evening’s entertainment the expedition nearly ended so far as Mott and I were concerned. Our way back to the rest-house lay down a narrow road deeply shaded by trees; Gilgit was sleeping, and except for the sound of our own footfalls, silence lay heavily upon the hillside. . . . Then suddenly a voice shouted. It seemed only a few feet away, but the dazzle of moon patches on the road made the shadow whence it came impenetrably black. We hesitated, the voice again shouted, closer and louder, and there was a sound of metal surfaces brought briskly into contact. We fled. . . . Shipton and Fountaine had been some distance ahead of us, and we were out of breath when we caught them up. To our surprise, they were not at all sympathetic—we could not perhaps be expected to know where the Treasury was but surely we should have recognized the word ‘Halt!’, even on Gilgitian lips and know the rattle of a rifle bolt! The following night the O.C. Scouts thought it wise to see us past the Treasury guard.

The Gilgit Agency is the British Raj at its best. Neither the commerce nor the missionaries of the West are admitted and I doubt if the most ardent opponent of Imperialism could find there a trace of exploitation. The Agency consists of Gilgit itself, Kashmir territory leased to the Crown, and a number of small states of which Hunza and Nagir are the most important.
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These states retain a large measure of internal autonomy under their hereditary rulers or Mirs.

From Gilgit our route lay up the Hunza valley to Nagir. At first the road was more barren than any we had crossed but our second march brought us once again to watered fields and the welcoming shade of trees. Around us the country increased in size. Rakaposhi (25,550 feet) towered above us, its glistening ice-fluted summit nineteen thousand feet above the valley, and so close to us that we could scarcely grasp its scale. Soaring above the nearer fields and pine-clad slopes, it was at once tantalizingly near and infinitely remote.

The irrigated slopes, infrequent lower down the valley, now ran together in an almost continuous belt of terraced fields and pastures. These were pleasant marches, shaded, with many feasts on mulberries and apricots, though once or twice we came to broken nullahs and our widely-laden animals found difficulty in negotiating the debris of landslides.

With three of the four stages from Gilgit to Nagir behind us we camped among trees on the outskirts of a small village. Rain threatened while our tents were being pitched, but after dark came the danger of water from another and unexpected direction. On the higher pastures a cultivator had changed the course of the irrigation water and when we were preparing to turn in for the night our lantern showed a silver-edged tongue of water bearing down on the camp. Alarmed for the safety of our stores, which were stacked on the ground, we stumbled up the hillside and diverted the flood. This led us to a closer appreciation of the efficiency of the irrigation systems. Flat stones wedged across the flumes act as cocks, a simple but surprisingly satisfactory arrangement for flooding the fields in a systematic rotation.

Somewhere on the hills above us was Zangia Harar, one of the two triangulated stations in this part of the Hunza valley. Mott had selected it for the beginning of his survey, and it seemed also a suitable spot for me to start my botanical collecting. So on the following morning he, Fazal Ellahi and I set out to spend two days there; later we rejoined the main party in the capital of Nagir.
The Palace of the Mirs of Nagir occupies an excellent defensive position high above the river facing Hunza, its hereditary enemy, down the valley. Among these mountains the most fertile soil is usually on alluvial terraces, sometimes only a few feet, more often a considerable height, above the present courses of the rivers. At Nagir a tributary stream has fretted away this terrace to a narrow promontory five hundred feet in height. On the outmost tip stood the Palace, with close at hand the Council Chamber and Guest House. The buildings were of wood and rather shoddy in construction; the facings and painted ornaments were falling into disrepair.

The Guest House, where we stayed intermittently for the next fortnight, had a delightful aspect overlooking a grassy maidan edged with fine poplar trees. Beyond, the ground fell away precipitously, and through the trees we could see the summits of fine snowy peaks twenty or thirty miles away. Closer was the rich green of cultivated fields and trees. Cool breezes from the mountains refreshed us after the dusty valleys. Time, one felt, meant nothing in Nagir.

A first duty was to pay our respects to the Mir, a figure of great dignity, white of hair and beard, clad in a long flowing choga of shimmering white silk. On his head was a rolled-edged Hunza hat of white wool. The choga, a long loose-fitting cloak, and the Hunza hat are the normal dress of all men in this region, but whereas the Mir was clad in fine white fabrics the clothes of the majority of his subjects were of coarse grey.

Fifty years before, the Mir had been placed on the throne by the British Government after the Hunza war in which he had taken arms against us. He soon found the new régime beneficent, and for years all Englishmen have been assured of a warm welcome in his territory. The old man spoke no word of English and I had cause, as on many other occasions, to regret my execrable badness at languages. Fortunately his heir, a grandson aged about eighteen, and his youngest son, a couple of years older, spoke English fluently. They had recently completed their education at the famous Tyndale-Biscoe school in Srinagar. There they had absorbed a little
of the West, but not too much, and I enjoyed their conversa-
tion. With mixed amusement and pride they showed me
rifles of old Russian design, used fifty years before 'against the
British'.

Chief of the Government was the Wazir, with black hair
and a black beard now turning slightly grey. He belonged to
an old Nagir family and, though he seemed to do but little,
he was reputed to hold great sway in the State. The Lambadar
—or one might say the permanent Mayor—of Nagir was the
official most helpful to us. He was an alert efficient man with
a neatly trimmed goatee and sharp eyes. He spoke English,
and had at least once visited India. Politically, I suppose he was
a progressive. In his control were the postal service, Nagir’s
one shop and, it seemed, all arrangements which have to be
completed within a specified time.

The Nagiris are pleasant and indolent. Both in racial type
and language they and their Hunza cousins contrast sharply
with their neighbours in Kashmir and Turkistan. Many have
a strikingly European cast of countenance and the rather
languorous headman who later supervised our local porters on
the Hispar glacier bore strong resemblance to an acquaintance
in the I.C.S. In my diary I called him 'Bertie'. It has been
suggested that European wanderers, perhaps Alexander the
Great’s men, strayed into these valleys.

The Nagiris of today are less vigorous and less enterprising
than the Hunza men. For this the greater fertility of their
soil and the consequent greater ease of living are perhaps
responsible. They seldom venture into the wild country of
the great glaciers and, as we soon found, they are of little use
when induced to go there. It is hard to reconcile their now
timid outlook with the fierce marauders who used to cross
the mountains to Baltistan and carry away women and live-
stock as their booty.

In religion the people of Nagir are Muslims of the Shiah
persuasion. They are devout, and at the time of our visit
their spiritual welfare was looked after by an Imam from Persia.
He was a grave and dignified figure with a voice of the purest
silver. Since, whenever I have heard the 'Call to Prayer' at
dawn, it has conjured up memories of the cool peace of Nagir, of the waking trees and the waking hills which seemed to hold their breath to hear his call.

By good fortune I was in Nagir on the last day of the annual festival which marked the gathering of the harvest. In the morning, when a variety of races were held, we were busy weighing stores against our departure to the Hispar glacier, but in the afternoon we attended the grand finale, a polo match. Polo is the national game of this part of the world. Every village boasts its polo field; every man, who owns or can borrow a horse, plays. It is the measure of manly prowess. Even small boys have an imitation of the game without horses. The people of Nagir claim that polo originated in their valley, and though this is not strictly true, the game has been played there longer than memory or tradition can recall. Polo is the oldest of all ball games. It originated in Persia; thence it was borne eastwards through Central Asia, and southwards across the passes to Gilgit at the west of the Himalayan chain, and Assam in the east. From these valleys polo was carried to the Western World. Thus, Gilgit can claim a share in the parentage of the modern game. The West has invented its own rules and complications but in Nagir polo is still played with a delightful freedom from restriction.

In these steep mountain valleys areas of flat ground approaching in size a normal sports field are extremely rare, and at best the average village can manage a strip of ground twenty or twenty-five yards wide, and up to two hundred yards in length. When not in use as a polo field it forms part of the village street. Usually it is bounded by stone walls or the sides of houses, and its surface is strewn with small stones. At either end two rocks are set to mark the goals.

Nagir being a centre of importance has two polo fields; one on the maidan beside the Palace, the other in the valley below. For the gala match every male in Nagir was present at the lower polo ground, beneath the trees which overhung its margin. Half-way along one side a small platform beneath a faded canopy had been prepared for the Mir and his guests. Facing it across the field was the band, which made weird
discordant noises throughout the afternoon. The music was more like the beating of tin cans than any other sound.

When we reached the ground a 'curtain raiser' was in progress but the sight of two Englishmen was so unusual that the game stopped and we were followed to our seats by a thousand pairs of eyes. A few minutes later the Mir, attended by a small entourage, rode slowly down the field upon a white pony. Greetings exchanged, we took our seats and the teams paraded. There were nine players on either side, mounted on small Kashgari ponies. One team was led by a couple of the Mir’s sons, and the prize for the victors was a sheep, a trophy of much value.

The band sounded a discordant fanfare, the people cheered, and the game began. It was a colourful scene. Through the trees sun-shafts dappled the field with brilliant light and shade; the players’ dresses, no two alike, made a gay motley; the ponies’ thundering hooves tossed glittering dust wreaths in the air. To and fro the game passed before us—superb horsemanship unhampered by rules. In the melee of whirling sticks several horses received cruel but unnoticed blows. It was surprising that no heads were broken. Frequently men riding at full gallop stopped their horses dead by turning them into the boundary walls. Scarcely for a second was the tension relaxed.

To win the game nine goals were required and the royal side soon drew into the lead. After each goal the teams changed ends and the man who scored the last goal was allowed a free gallop half down the field where he tossed the ball in the air and struck at it. To score a goal direct from this free stroke shows a superb combination of eye and horsemanship, yet we were told it happens not infrequently. This custom was apparently evolved to allow purdah women peering from windows along the field to know when their husbands scored.

The climax of the game followed the eighth goal of the leading team. Perhaps a dozen men were scrummaging over the ball when, for no reason apparent to us, they threw their sticks away and a sort of horseback wrestling match developed. Someone had caught the ball in his hand, and his opponents
were entitled to remove it from him in any convenient way. Players from other parts of the field rushed in to give their aid. Clothes were torn and excitement reached fever pitch. The plunging horses and struggling men swayed to and fro for perhaps a minute. Then the ball was grasped by a man on the margin of the scrum who flayed his horse with a short whip and raced down the field in a mad gallop.

Half-way to the goal, when safe from pursuit, he swung round in his saddle, held out the ball to his baffled opponents and screamed derisive taunts. Then turning again he tossed the ball between the goal stones. The game was over. Gradually the excitement died. Horses were led to our enclosure and following the Mir we rode away.

Slow to disperse, the populace followed us and while they yet lingered between the Palace and the Guest House the Mir's heir came out from the Palace with a bicycle. This, the first wheeled transport seen in Nagir, caused suitable surprise. We were called upon to ride and moved perilously through the throng, the heir at one stage seated on the handle-bars while I pedalled.

When the exhibition was over and we sat drinking tea I fell to wondering if the bicycle marked the beginning of the end of the Old Nagir. Today, with the nearest motor road over two hundred miles away and the only Western contrivance a telephone so dilapidated that it seldom worked, it was hard to feel that any change was imminent. But the West has a knack of seeping into the quiet corners of the world, at first welcomed, checked only when too late. I can conceive no benefit of civilization which could outweigh the burden it would impose. The Gilgit Agency has already provided all that is good which the West can give—medical aid and peace, the latter a gift which the West can give to others, not itself. More would destroy the simple traditional living of the people, conferring no compensating benefit, and I am glad to have seen Nagir while the old order yet held sway.
Nagir
The Mir of Nagir
Part VI

GLACIERS AND PASSES

Felicity is a continual progress of the desire from one object to another, the attaining of the former being still but the way to the latter . . . and there shall be no contentment but proceeding.

HOBSES
Leviathan
Glaciers and Passes

Our survey and botanical work began when Mott and I left the main party on the Gilgit-Nagir Road and climbed towards Zangia Harar. Light rain, our first for many days, added to the confusion of our departure. We needed porters. Local men at first clamoured for employment and then drew back; but eventually three were enlisted. They were not enthusiastic about the loads we allocated to them, and a good deal of coaxing was necessary. At length the eight of us, Mott, Fazal Ellahi and myself, two Sherpas and the local men, started up the steep hill path. For the first two thousand feet our way lay over the debris of a vast landslide. Twenty or thirty years before a village had been swept away with the loss of many lives. The cone of debris must have been a mile wide at its base; it was strewn with boulders the size of cottages. As we climbed upwards we came to slopes of smaller stones and earth. The ground here was still not consolidated and narrow fissures gaped across the face. Probably they presaged no more than minor subsidences but I was grateful when we came again to solid ground.

Erosion is very rapid in these steep mountain valleys; the mud which clouds the rivers and the frequency with which small falls occur bear witness to its speed. So also do the scars left by great cataclysms like that in the debris of which our route now lay. In the fold of a terrace a few hundred yards beyond the top of the landslide we came, unexpectedly, to a village comfortable with fruit trees and good pasturage. Here was a vivid contrast to the desolation through which we had ascended; here was shelter and fertility and comfort, as comfort goes in these parts. Here, seemingly, was security and permanence. But this last was an illusion. That other village which now lay beneath so many thousand tons of debris had once been like this; already the lower pastures of this newer village were being eaten away. I wondered how long it would be before the entire terrace, houses and all, would disappear.
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Beyond the village we came quickly to bare steep hillsides which carried us steadily upwards until in late afternoon we breasted the last false crest and pitched our tents close to the trigonometric station. Our altitude was only 13,500 feet but the rapid ascent of nearly seven thousand feet made us absurdly conscious of the effects of altitude; the least exertion seemed considerable. Mott and I had carried packs of forty pounds on the ascent; probably we would have been wiser not to do so until we were in better condition.

It was a clear afternoon, promising a clear night, and Mott decided to fix our position by the stars. Before dark he set up the theodolite; a couple of hours later our work began. Sunset had died on the fluted ice of Rakaposhi, and the haze of day had turned to the cavernous black of night in the Hunza valley below. Close at hand I lay in my sleeping-bag jotting down his observations. It was slow work, due to a faulty electric system illuminating the scales of the theodolite, and for long periods I lay in uninterrupted admiration of the heavens. At this altitude the stars were brighter and more numerous than I had ever known. By contrast the background sky was blacker, like jet velvet, instead of the blue-grey of even the clearest night at sea level. Never before had I such consciousness of vast unbounded space as in the black nothingness between the stars. And the crowded stars themselves seemed unfamiliar; there were so many which are invisible to the naked eye at lower levels that it was hard to recognize even familiar constellations. I felt that I had never really seen the stars before.

As our work finished the moon rose behind a rocky ridge freakish in outline, and cast each fold and angle into bold silhouette. The brightness of the moon, as of the stars, exceeded all past experience. With her rising the stars faded, the sky paled and the surrounding mountains came back to life. For the last hours they had been forgotten, almost invisible shapes; now the sky seemed to contract while the country around us, dwarfed hitherto by the stars, assumed again its vast daylight scale.

Zangia Harar and Buri Harar on the northern side of the
Hispar valley were used as trigonometric stations by Major Kenneth Mason's party which in 1913 made a survey link joining the survey systems of India and Russia. They were the only 'fixed points' facing the Hispar country and we planned to use them as a base line, carrying thence a triangulation network into the higher country. Into this would be fitted the detailed survey by photo-theodolite and plane-table. The astro-fix of our first night was an extra check, a frill rather than a fundamental part of the programme. Beyond this brief explanation I shall not attempt to describe the work which Mott undertook. Neither is it profitable to make more than passing reference to my botanical studies, for the collections of dried plants which I gathered still await examination.

For a fortnight after Mott and I returned from Zangia Harar, Nagir was our base and we made journeys in various directions. Shipton, Mott and Fountaine spent their time mainly on the northern side of the valley towards Buri Harar and the Gharesa glacier; Betterton, Secord and I went to the Barpu glacier in the south.

By Karakoram standards the Barpu is small, but for me it had the special interest of being the first Karakoram glacier on which I stood. At the point where we reached it the ice was riven into narrow ribs, and for the first few feet the slope approached the maximum angle on which nailed boots will hold comfortably without steps. I imagined that our local coolies would find this slope awkward, for they were shod in loose sandals, and I set about cutting steps. It was pleasant to have an excuse for using my ice-axe and the stairway that I made was very commodious. I had just finished it when the first of the local men reached the edge of the glacier and, ignoring me completely, walked gracefully up a slope considerably steeper than that on which I was. The purpose of my step-cutting had obviously not occurred to him; I was careful not to disclose it.

We had two reasons for visiting the Barpu: the collection of plants and the quest for a negotiable pass leading southwards. Botanically it was not a very profitable trip; the majority of the slopes were dry and clad in rather drab stunted shrubbery.
In hollows, willow and tamarisk provided shelter for a few more fragile plants of which the blue pea was perhaps the most common. It was the supply of water which mainly controlled the vegetation; one small but exceptionally moist gully upon which I stumbled yielded so rich a harvest that I returned to camp with my windproof jacket and trousers slung round my neck to supplement my collecting bag.

Seven or eight miles up the glacier we came to a small grazing ground, perhaps fifty acres in extent, lying between the lateral moraine of the glacier and the mountain slope. A dozen men were living there. The stench of unwashed bodies, dung and rancid butter, proclaimed their existence while we were still several hundred yards away. They met us noisily and led the way to a huddle of mean and filthy stone huts. We were offered bowls of curdled cream but even after we had added much sugar we found it difficult to be properly appreciative. Perhaps it was last year’s milk.

Inside the central hut—that from which the main rancid odour came—butter-making was in progress. A cylindrical wooden vessel, perhaps a foot in diameter and three feet high, chiselled from a tree-trunk, was set upright on the floor; a man squatting beside it moved a long wooden plunger up and down. Dung and other filth spattered the floor and foreign bodies floated in the bowls of milk awaiting churning. We were glad to escape into the cleanliness of the open air. Three hours later we came to a particularly agreeable spot in which to camp—an outjutting terrace of moraine two hundred feet above the glacier. It was a commanding viewpoint. By some accident in the structure of the hills towards the west, the sun remained with us for some time after the glacier and the slopes to either side had sunken into shadow. It was a perfect evening and while the Sherpas prepared the evening meal Secord and I lazed in the still unchilled calm of early evening. Before us steep ice-hung mountains, unnamed, unmapped and unclimbed, enclosed the head of the glacier. As Secord remarked, if those peaks were in the Alps they would provide full occupation for the holidays of a dozen years. Here in the Karakoram we would pass them by, almost
GLACIERS AND PASSES

forget them, after a couple of days. Many times in our journeyings I was again to have the feeling that we were rushing through country which taken in slow draughts could provide a lifetime’s enjoyment. Here, there, in so many places, it would have been delightful to potter for an extra day or a week. But our plans bore us onwards. Regret at what we left half appreciated was swallowed up in the keener pleasure of moving forwards, in the zest of new experience and new problems.

We left camp at dawn and travelled towards the head of the glacier, coming more and more under the shadow of great rock buttresses and ice-faces. By noon we had progressed sufficiently far to see that there were no practicable passes across the enclosing watersheds and we returned down the glacier. Wishing to reach Nagir as early as possible on the morrow, we travelled late into the evening. At first we kept to the surface of the glacier but later it was easier to travel in the ablation valley.

Ablation valleys are narrow troughs lying parallel to glaciers enclosed on one side by lateral moraine, on the other by the mountainside. They are a common feature of the Karakoram glaciers. As their name implies they are caused by the sublimation or ‘evaporation’ of ice. The rocks of the mountains both conduct and reflect the heat of the sun so that sublimation is most rapid at the sides of the glaciers, which thus contract away from the mountains. The majority of these valleys are well watered, and for this reason they were among the most rewarding localities in which I searched for plants.

For long stretches the ablation valley beside the Barpu glacier was lined with *Myricaria*, a type of tamarisk, four to seven feet in height. The shrubs were in full bloom; each plant bore so many small pink flowers that an unbroken pink cloud lay about us. Sunset brought an unforgettable sensation of colour. During the day a smoky heat haze had gathered upon the hills of Hunza which lay before us. Sunset turned it to a rose-pink shroud which filled the whole landscape, beating downwards from the sky, upwards from the shrubs. The earth about us and the stones and our faces and our clothing were a
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rich living pink. The colour drenched them. Through this transfigured scene we marched onwards while sunset passed. Darkness gathered about us; when it became difficult to see our way we halted beside a small clear stream and spread out our sleeping-bags. Next morning we were among the trees of Nagir before the dew had lifted.

We had intended that we would all move together from Nagir to the Hispar glacier but this proved impossible. Technical difficulties of survey detained Shipton and Mott, and we decided that Betterton and I should travel in advance with the main caravan of stores and equipment to establish a base depot beside the glacier. No food would be obtainable beyond Nagir and we spent our last day buying stone-milled flour, known as ata, checking loads and engaging porters. Everyone helped us, or tried to; everyone shouted; everyone got in everyone else's way; but at last all was arranged. Dawn broke over a tempestuous throng of coolies scrambling to their loads. Slowly they were persuaded to start but at length the last of our caravan of seventy-three coolies left the Guest House. They straggled over a mile and a half of path.

Our first march was along a well-beaten track in the narrow Hispar valley, sometimes close to the river, sometimes across steep slopes. When we had gone but a few miles trouble began: loads were too heavy, pay insufficient. With few exceptions the men were a spineless rabble and, not surprisingly, the Sherpas treated them with contempt.

During the afternoon we reached the only village between Nagir and Hispar. It marked the end of the first stage of our march. Our camp was seven or eight hundred feet above the valley in a small irrigated area edged by trees. Lying in their shade we watched the coolies straggle slowly into camp. Around us a crowd soon gathered, exhibiting cut feet, festering wounds and other ailments, hopeful for sympathy and aid. Our scanty medical stores were greatly taxed but, from Betterton, I learned to make the most spectacular and thrifty use of the little that we had. Potassium permanganate was invaluable—a strong solution for cuts, a weak one for bad eyes, an intermediate one for sore throats. The success of some of
Surveyors:
*left:* Fazal Ellahi with plane table
*right:* Peter Mott with photo theodolite
Botanist
our cures surpassed our wildest hopes—such is the combined effect of simple faith and strong constitutions.

The next task was to distribute the coolies' food. The ration was two pounds of ata per day and a little salt. Our measures had been checked in Nagir but some of the men were seeking trouble; they accused us of issuing short rations. Soon the camp was in uproar. Betterton's fluent Hindustani, backed by a threat to send a report to the Mir, at first had no effect, but at length the men tired of their clamouring and peace returned at sunset.

Early in the next march sudden dysentery spasms seized me, punctuating the day until it seemed the longest and most cheerless I had known. Afternoon brought rain in cold raw gusts which turned attention from internal to external discomfort, but I reached the grey stone huts of Hispar with but one desire, to lie down. Gyalgen stood a self-appointed guard over my tent and drove the inquisitive populace away. Happily the air of the mountains gave short shrift to bodily disorder and the following morning I felt ready, if not eager, for the road. Betterton lost a small bet in consequence.

Sudden gastronomic upsets are a not uncommon experience of Himalayan travellers; the injudicious use of uncooked local food, particles of mica in the water, or chills are variously blamed as their cause. Usually they pass as quickly as they come, and apart from the sufferer himself, no one is inconvenienced. Once, however, we had an unpleasantly dramatic experience; one of our number was seized by a sudden sick giddiness as he cut steps high on an exposed ice-face. Only the greatest effort of will kept him on his slender steps until a companion had climbed past him to belay. Fortunately my own interior chose less inconvenient occasions on which to misbehave.

Three-quarters of a mile beyond the village, the Hispar glacier lay like a great grey dam across the valley. The country was bleak and treeless; bare rock was in the ascendancy; the few fields beside the village seemed permitted to exist on sufferance only. Wide shingle fans stretched out from the hills like tentacles ready to engulf them. Skirting the wide grey desolation of the terminal moraine we gained at length
the ablation valley on the southern side of the glacier. For months I had looked forward to my first glimpse of the great Karakoram glaciers, but this was a disappointing introduction. The drab waste of moraine stretched like a gigantic gravel-yard as far as eye could see, with no hint of clear ice. In one thing, however, we were fortunate; the ablation valley saved us much travail. For three days it gave us easy and pleasant travelling; there was a fairly distinct track leading to the upper pastures, and shrubs shaded our way. Only where tributary glaciers entered was it necessary for us to descend on to the moraine.

On our first day beside the glacier the coolies lagged badly; towards two o'clock angry words passed when we refused to camp. An hour later it was impossible to drive the men further. We had made only eight or nine miles, a poor march considering the good conditions, but for myself I was not sorry; we had reached a most delightful alpine glade ringed about with a profusion of highly coloured flowers.

Along the valley small groups of coolies made their camps and as night descended a dozen flickering fires stood out under the shadow of the darkening hills. Laughing voices floated to our ears, for now that the march was over the men were cheerful. Hoping to maintain this good feeling, we visited their groups distributing cigarettes and occasional quids of tobacco for large communal hookahs. Soon the stars hushed conversation and I, usually a fitful sleeper, enjoyed one of those rare perfect nights which always recall my boyhood among the New Zealand hills.

Towards the middle of our next march we descended for a time on to the moraine, and our barefooted coolies magnified their discomfort to a pitch which denied sympathy. To spare them unnecessary distance Betterton and I went ahead, seeking the easiest way through while Gyalgen, terrier-like, brought up the rear. Speed decreased hourly; the lambadar had no control over the men, but we did not realize the seriousness of the situation until it was nearly too late.

Soon after noon the crisis came. The lambadar foolishly struck two men, the ringleaders in laziness. Within a few
seconds pandemonium exceeded anything we had yet seen. Men cast away their loads and started down the glacier at a pace of which I had not thought them capable. Betterton was unfortunately out of reach; as a last resort I pursued the leaders and linked arms with them. They found it a new and interesting experience to walk arm in arm with a European; I was soon able to persuade them to stop and sit down. Fortunately I had a packet of cigarettes in my pocket and we smoked together. Tempers were now considerably improved and a little portrait photography brought the reaction that I sought—good hearty laughter. A laughing Nagiri is an obedient one; the incident was over, but for the remainder of the march I kept close to the agitators.

We had hoped to camp that night at Shenishish, some twenty miles from the snout of the glacier, and make there our main depot of stores, but we had now to resign ourselves to camping beside the stone huts of Makorum, three miles short of our objective. Under a large tarpaulin we made our depot, appointed the lambadar as its custodian, and on the morrow paid off all but six of the men.

Makorum was a good camp, well watered, with sheltered nooks, carpeted with soft grass for our tents. For the first time the great peaks of the Hispar country were within our view. Behind us rose the shattered ice of Makorum peak, magnificent though foreshortened by our closeness. Across the glacier bare slopes swept upwards to the tangled battlements and icefields of the Kanjut massif, over 23,000 feet in height. Further up the glacier stood a stupendous rock spire, bolder and of cleaner outline than the Matterhorn. Later we found that it was a mere bump on a leading ridge, but to our first view the 'Matterhorn peak' seemed among the most perfect of mountains. Beyond it we could see nothing, for the head of the glacier was hidden by nearer spurs. Moraine still covered the greater part of the glacier, but a ribbon of clear ice towards the centre held promise of the great vistas soon to be unfolded.

Now that the depot was laid, our objective was the crossing of the Nushik La seven or eight miles further up the glacier.
South of this pass we would gain the Kero Lungma glacier in Baltistan. I planned to spend a few days botanizing in this country and Betterton, who was now due to return to Srinagar, would leave me there and travel homeward by way of Skardu.

It was nearly ten o’clock when we left Makorum; a perfect morning, which the uproar of departing coolies could not tarnish. A great peace fell with their going and I was now free to roam as my camera or collecting bag dictated; sometimes behind, sometimes ahead of Betterton and the porters. The ablation valley became more verdant. Sheltering against the willow shrubbery were great banks of lilac geraniums which far exceeded in delicacy and grace the pelargoniums which pass as geraniums in English gardens. Then there were blue-flowered myosotis, purple aconites, yellow potentillas, crimson-headed astragalus, occasional blue primulas, golden-centred asters and a dozen other plants. Sometimes they grew together as closely as the flowers of a cottage garden, and with an equal harmony of blending forms and colours.

I loaded a colour film in my Leica and months later found that colour had been recorded with a fidelity beyond my hopes. The films are now lost but two pictures are still vivid in my memory: the first, of a small clear stream flowing through a string of pools, bottomed with yellow sand, and set between meadows bursting into bloom. The other picture was on a different and more typical Himalayan scale; the ‘Matterhorn’, ruddy-brown rock, rising from the grey glacier into a sky of deep blue, with sparkling ice ridges in the background and fleecy white clouds above. The foreground glacier was hidden by a small ridge, gay with flowers which seemed to find their focus in one magnificent astragalus, glowing with iridescent colour in the full sunlight.

Together, these pictures link the two foci of my interests, the delicate perfection of the flowers, the vast magnificence of the mountains on which they grow. The effect of these contrasting scales upon the mind is difficult to translate into words: each time attention turned from the flowers to the mountains I felt their vastness, as for the first time, and when again mountaineering gave place to botany I saw the flowers with new eyes.
A few miles beyond Makorum camp the ablation valley ended and we continued over steep slopes of grass and scree until towards sunset we camped close to the corner round which we knew the Nushik La must lie. At last the upper Hispar glacier opened out before us, no longer covered by moraine, but a marble white highway a mile and a half wide sweeping gently downwards from the smooth snows of Hispar pass some twenty miles away. Tributary glaciers joined it, each framed by marginal streaks of moraine, which gradually coalesced one with another. On either side the enclosing mountains rose; on the north the Kanjuts and ‘Matterhorn’ with which already we were familiar, on the south—the side on which we stood—the ‘South Hispar Wall’ which we now saw for the first time.

‘Wall’ is the only name which gives any impression of that range which soars in unbroken steepness to ice-fluted summits and unscaled passes, the lowest of them nearly four thousand feet above the glacier. There can be few better examples of the smoothing action of a glacier. In the whole sweep of the Wall no ridge protruded conspicuously beyond its fellows. The glacier, like a giant carpenter’s plane, had worn all equally away. In some places there were great battlements of rock, in others hanging glaciers of deeply riven ice, which periodically discharged great avalanches, their contribution to the glacier stream beneath.

But for us it was Hispar pass that was the focus of the view—beyond it lay the Snow Lake, the subject of so many conversations during recent months and now increased in interest by our nearness. It would still be several weeks before we crossed the pass but the immediate present held full satisfaction. It seemed on that evening the valleys and their dusty paths were at last behind us.

The great scale of the scene dwarfed distance, and the head of the glacier, still three marches away, seemed well within
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the orbit of a day’s stroll. Only at sunset did I gain an impression in any way faithful of the scale of the country: long after the light had died on the glacier sunset tints lingered on what had previously seemed a small pyramid immediately beyond Hispar pass. Now it assumed its true magnitude as a great and distant peak, later to become familiar as the ‘Ogre’.

The Nushik La (16,500 feet) is one of the ancient routes across the ranges, now long disused, to which I have referred in an earlier chapter. A hundred years ago Nagiri marauders crossed it to prey on the Baltistan valleys, and there can still be seen the ruins of a fort built to protect Arundu, the highest village on the Baltistan side of the pass. In 1892 the late Brigadier-General (then Captain) Bruce and Mr. Eckenstein, members of Conway’s expedition, crossed the pass. Fifteen years later another party reconnoitred its southern approaches, but until our visit no other Europeans crossed it.

It was to be my first Himalayan climb, a much looked forward to experience, but I was far from reassured by my first view. A direct approach was made impossible by a steep face of bare ice, grooved by rock falls, but to the left of the pass a gentler slope, much broken by crevasses, was more promising. However, even it seemed a much stiffer proposition than I had expected; but it was encouraging that Bruce’s route lay there, and I borrowed Betterton’s powerful binoculars to make a closer inspection.

Our six local porters were far from happy. On the previous day two of them had told us that they knew the route; now, having seen it, they denied all knowledge, and added illogically that ten men had been killed there during the previous year. Betterton did his best to maintain morale and the frequency with which he used my name made me suspect that he was describing my mountaineering skill in terms altogether fictitious. Some positive demonstration that the pass was climbable seemed necessary if the men were not to desert us and, trying to appear much more confident than I felt, I set out with Gyalgen. It was not yet 10 A.M., the sky was unclouded and there was no wind. Within an hour we were ascending a shallow couloir which led upward for eight or nine hundred
feet to an icefall. Snow conditions were perfect and I soon realized that my earlier doubts had little foundation. I was as yet unaccustomed to the scale of these mountains; what had seemed to be difficult narrow ledges were in fact firm slopes several feet in width. But it was a varied route with a few stimulating crevasse crossings and traverses, which gave me my first opportunity of appreciating Gyalgen's graceful movement on steep snow. Two hours, among the most enjoyable I have ever spent on a mountain, brought us to the crest at a point eight or nine hundred feet above the pass and half a mile distant from it.

Looking down to the grassy slope where Betterton waited, I wondered what the temper of our porters was now. The binoculars were no doubt being handed round from man to man and to encourage them we had climbed as quickly as possible. Now it was enjoyable to rest. Gyalgen was much amused when I told him that this was the highest point I had ever reached; it surprised him that there were no higher peaks in England. We had now become able to exchange views on wider subjects than mere food or loads, a linguistic achievement due to his powers of comprehension rather than to my Hindustani. At his suggestion we took photographs of each other.

Soon an hour had slipped past and we descended. Betterton was waiting on the glacier with mixed news; all but one of the local coolies had deserted—Mahmud, a quiet youth of mixed Balti-Nagiri parentage, alone remained—but to counterbalance this loss, Fountaine and Secord had arrived with the Sherpas, Lhakpa Tensing and Lobsang. But even so our carrying capacity was insufficient; in addition to normal equipment there were supplies and tents for Betterton's homeward journey, the photo-theodolite and my collecting equipment.

We held a final inquisition in search of anything that could be left behind, and the domestic kit of the Betterton combine suffered particularly. Betterton's Kashmiri cook-servant had smuggled much that was not sanctioned, and he made a very sorry figure when we sat in judgment on his boxes, prying into even the smallest tin and casting much away. Remembering the many splendid dishes on which he had fed me, I felt
more sorry for him than it was wise to show. But even when we had completed the scrutiny of our baggage over five hundred pounds weight still remained to be taken over the pass. On the ascent we would be able to carry barely two-thirds of this, so on the afternoon prior to our climb we sent the porters to deposit loads where the steep part of the climb began. They travelled quickly and rejoined us before sunset.

For a few hours we then slept, our loads already packed; at midnight we set out. Several hours of groping progress brought us towards dawn to the point where the loads had been left on the previous day. Seldom had I been more grateful for daylight; in the past hours it had been hard to pick our way on long slopes, all very much alike, all ending in blackness below us. Now sunrise brought the promise of a perfect day. Cheerfully we uncoiled our climbing ropes and tied ourselves to them in two parties. The next three hours, breaking steps upwards through the small icefall, would have been delightful had not our loads oppressed us; we were all grateful to reach the crest towards nine o'clock. For the first time in the day we were in sunlight, and spreading our tents as ground sheets, we lay upon them while breakfast cooked on our primus stoves. The morning slipped drowsily past while the Sherpas fetched the loads which remained half-way up the route. On their return we divided the extra weight among us and heavily laden began to make our way down to the head of the Kero Lungma glacier, which flows southward from the Nushik La.

All went well until the last few hundred feet of the descent—a steep fall of mixed rock and ice. It was considerably more difficult to descend than we had expected. We could find no route practicable for laden men and eventually our loads were lowered by means of a rope. It was a lengthy and awkward process; two packs broke adrift and scattered their contents widely over the slope—an episode which led to some acrimony and was not without its moral. Fortunately all the most important items were recovered and we made a rather damp camp upon the glacier, half a mile below the true crest of the pass.

Early next morning we set up the photo-theodolite on top
of the pass to record the intricate mass of the Kanjut peaks and the lower but more varied summits to the south. None of them was named but one was particularly striking, a mountain of warm brown rock and snow, building up in serried battle-ments to a bold rocky tower. In my diary I named it the 'Norman Keep'.

While we were thus employed the Sherpas broke camp and moved down the glacier. Following them we marched easily for the first mile or more on firm snow but as we lost altitude the glacier surface became 'rotten', that is to say, partially melted. Treacherous crusts masked wide crevasses and for two hours we moved anxiously. The Sherpas, as we found later, had abandoned the glacier when they encountered these conditions and scrambled along the marginal band of moraine. We, less wisely, continued in the centre of the glacier, and paid for our error with some awkward step-cutting. The Sherpas watched the final spasms of our travail with much enjoyment.

Our party now divided. Secord and Fountaine were to visit the neighbouring glaciers while Betterton and I travelled down the valley to Arundu. This would give me the oppor-tunity of examining the flora and also of replenishing our supplies from Arundu. There Betterton would leave me and return homeward while I would rejoin Fountaine and Secord whom we hoped would have found an alternative pass back to the Hispar glacier. Betterton and I had planned to reach Arundu in a single day, but it was a slower march than we had expected and night overtook us on a rather gloomy deserted pasture a short distance below the upper limit of the mountain birch forests. We had carried little food, but wild rhubarb gave us a tolerable morning meal.

Our arrival in Arundu caused great surprise. Women working in the fields fled in alarm, to the huge satisfaction of the Sherpas. Soon we were reclining beneath trees on the outskirts of the village, feasting on eggs. Three dozen made my lunch. The male population of the village formed an interested and tireless circle in the middle distance while the village elders argued the afternoon through over the cost of
porters for Betterton, and of the stores I wished to take back to
the glaciers. At dawn the Sherpas and I started back to the
Kero Lungma, leaving Betterton to travel southwards. After
our pleasant weeks together I was sorry to part from him.

It was at our lunch halt beside the Kero Lungma that I first
tried Tibetan tea, savoured with ghee and salt. I found it less
repulsive than I had expected but it was very definitely an
acquired taste.

Thus far on our journey the weather had been perfect, but
when we neared our camp a heavy storm broke. Fountaine
and Secord had moved camp and we hurriedly pitched our
one remaining tent—a small bivouac designed to hold two
men. Its floor measured four feet by six, and at the ridge it was
three and a half feet high. Cold scuds of rain drove down upon
us, but Gyalgen’s grin was indelible. When the tent was
pitched he apologized for being unable to cook a hot meal and
picking up his pack prepared to move down the hill with the
other porters. I asked where they were going and heard a
vague tale of a sheltered place between rocks where they in-
tended to sleep. No such shelter I knew existed—they pre-
tended it did to give me the comfort of the tent. Hitherto I
had taken it for granted that we would all share it, not realizing
that they would not do so without a definite invitation.

In turn we cast off our wettest clothes, crawled inside and
sitting crossways, heads between knees, the five of us fitted
neatly in. Soon the atmosphere became foul, that nauseating
fug which the Sherpas love. Beside me, Lobsang kept up the
low, mournful wail of a Buddhist chant for half the night; one
of the others had violent intermittent indigestion. It seemed
that dawn was never more slow in coming.

With sunrise the sky cleared and, leaving a couple of the
porters spreading out our kit to dry, I set out with Gyalgen
and Lobsang to find Fountaine and Secord. They had left a
message giving the whereabouts of their intended camp and
an hour and a half brought us to it. Our way lay along gentle
hillsides flanking the glacier but we had one great excitement
on the march; in a bed of moist glacial silt were the fresh tracks
of an animal identified by the Sherpas as Yeti—the Abominable
Nushik La from Hispar Glacier

Kero Lungma Glacier from Nushik La
Perched boulder on Hispar Glacier

Tracks attributed to the "Abominable Snow Man"
Snowman. Much space in *The Times* and elsewhere has been devoted to discrediting or defending these homnivorous monsters, and I was delighted to be on the track of one thus early in the expedition. Tilman's discovery of yeti spoor on the Snow Lake two years before had encouraged the hope that the Karakoram was rich in yeti, nor were we wrong.

There are, as every Sherpa knows, two types of beast which roam the high snowfields, the four-legged balu and the two-legged yeti. Balu are the Red Bear while yeti are the Snowmen. Beside their preference for a purely human diet they have another remarkable characteristic—their feet are reversed as compared with normal animals, the heel in front, the toes behind. This is most inconvenient for the uninitiated who, endeavouring to flee, throw themselves instead into their waiting jaws. Yeti tracks, moreover, form a single line like those of any other biped, not a staggered line like any normal quadruped such as balu. Descriptions of the shape and size of the footmarks are conflicting; some have been reported similar to a human hand, others the shape and size of large soup plates. Perhaps forms intermediate between these extremes also occur. The tracks beside the Kero Lungma were of the former type; undoubtedly they were yeti—the Sherpas said so, but they were alarmed to a disappointingly small extent. Gyalgen's statement that the beasts lived on men lacked conviction, but, just to be on the safe side, the Sherpas kept close together in the yeti country. It reminded me of the way sophisticated Westerners pay nominal service to institutions in which they have ceased really to believe.

The following day we found more yeti tracks and, what was especially interesting, a quantity of their droppings. These gave definite proof of a herbaceous diet. I took close-up photos of this important evidence and, to place it beyond doubt, Fountaine photographed me photographing the specimens. Later, in the Sokha and Solu glaciers, both yeti and balu were abundant; once indeed balu changed to yeti before our eyes, or rather tracks identified as balu at the foot of a slope were certified as yeti at the top. Thus we discovered one of the generic differences between the two animals. If the
prints of the beast’s toe-nails are distinct it is balu, if the ground is too hard to show the nail-prints, or so soft that the toe and nail-prints are blurred together, it is probably yeti. These sudden transformations of balu into yeti are less rare than might be supposed. On another occasion we happened to follow a set of tracks first over level ground and then across a steep snow slope. On the flat the tracks were in two lines twelve to fifteen inches apart; clearly they had been made by the quadruped balu. But when they led obliquely across the slope the two lines came close together and in the steepest places overlapped, making an almost straight line, not dissimilar in spacing to the tracks of a man. The imprints were heaviest on the inside of the foot. Thus when the sun had half melted the tracks they resembled the lines of soup plates some patient students of yeti have described.

Thus far only could we carry out investigations. Unfortunately we never saw any yeti; we were inexpert stalkers and they apparently scented us from afar, a fact not surprising in view of our simple mode of living. To more patient observers must be left the last, and perhaps the most interesting, of all yeti problems—whether he really does walk backwards.

After returning to England I sent a photograph of our yeti tracks to a seat of high learning; they were identified as the tracks of *Ursus arctus isabellinus*, more simply the Red Bear. The sequel to the examination of the photograph was illuminating; in some way unknown to us it came to the knowledge of Fleet Street and a great London daily proclaimed in a banner headline that ‘Scientist Debunks Abominable Snowman with Camera’. This was the only publicity the popular press thought fit to give the expedition. As the general public relies for its knowledge on the penny newspaper it is not surprising that many people have strange ideas about the purposes and methods of explorers.

But to return to more authentic matters. After our parties were reunited, we remained for three nights in the Kero Lungma basin. For half of each day rain fell but we managed a certain amount of travelling and plant collection. During my absence in Arundu, Secord and Fountaine had seen a
promising col on the South Hispar Wall. It was accessible from
the south and their hopes of crossing it were high until they
carried their reconnaissance to the crest and saw that the side
leading down to the Hispar glacier was sheer and unclimbable.
Two days later we recrossed the Nushik La in a snowstorm,
and descended through layers of swirling mist to the Hispar
 glacier.

At Makorum was Shipton, lately returned from making a
depot of stores two marches further up the glacier. It had
been an exhausting trip, requiring all his almost limitless
patience to urge the local coolies onwards. Despite his efforts
none of them was willing to remain longer with us. Thus,
of the local men on whom we had relied greatly in our plan-
ning, only Mahmud remained. We had given him a green
wind-proof suit just before crossing the Nushik La. It more
than consoled him for the lack of his own kin, and throughout
the season he served us well.

For a week I now settled down to intensive botanizing.
Makorum was well suited for my experimental work. There
was much to do; drying paper to be changed in my now con-
siderable collections, dried specimens to be checked and packed
and further collecting excursions to be made in the intervals
of my experiments. Gyalgen helped in every way he could
and sat for hours changing the paper in my presses. The
Sherpas' tolerance for actions which must have seemed insane
to them was amazing; when I chose to get up at odd hours of
the night and snip off bits of plants, boil them in a strange
liquid and seal them in tubes, they were certain that it was all
important and profound—more certain perhaps than I was.

While I was thus engaged Fountaine and Secord set out to
reconnoitre some of the valleys on the northern side of the
Hispar glacier, and Mott arrived with sheaves of trigonometric
calculations to resolve. For a few days we worked side by
side while Shipton busied himself preparing our loads for our
journey to the Snow Lake. One final trigonometric station
was necessary near Makorum—an out-jutting rocky tooth,
four thousand feet above the glacier, which we had first seen
from the slopes above Nagir. There I accompanied Mott
when his calculations and my experiments were ended. Steep
screes and slopes sparsely dotted with vegetation carried us
close to the tooth but the last few hundred feet gave an hour
of rock-climbing which reminded me of sunlit days in Wales.
The theodolite ascended precariously in a rope cradle.

For an hour Mott worked with the theodolite while I sat
up on the verge of the crag with the whole sweep of the Hispar
glacier before me. Far below was the faint line of the path in
the ablation valley where the coolies had straggled on our out-
ward march; beyond lay the grey desolation of the glacier with
a silver streak of water springing from its terminal face and
curving past the tiny huts of Hispar village to lose itself in the
folded valley, which bore westwards to the haze-softened
Hunza mountains. Then as I moved from the western side of
the crag to the east I could trace the route above which the
next days would carry us up the glittering white passage of
the glacier. But it was hard even now to realize the greatness
of distances. From Hispar village to Makorum seemed an
easy day’s walk, Makorum to the pass another, yet it had taken
us two marches to reach Makorum, and with our loads we
would make three more marches to the pass. The clearness of
the Himalayan air and the height of the peaks dwarf distances.
For this reason one of the most difficult of all the things a
climber must learn is to make the correct allowance for this; it
is beyond his experience in other ranges.

In our absence Shipton and the Sherpas had moved camp to
Shenishish, three miles up the glacier, and there Mott and I
rejoined them in the evening. Now at last we were ready to
march towards Hispar pass. Difficulties of survey and trans-
port had delayed us far beyond our expectations and it was
already early August. But the delays had served only to whet
our appetites and this final night on the lower glacier is particu-
larly clear in memory.

Our sleeping-bags were laid out in a grassy hollow around
the dying embers of our cooking fire. Beside us were our
loads waiting for the morrow; above was the silent brilliance
of the stars. The memory is clothed in a special aura of thrilled
expectancy, the feeling of the ‘night before’ which had height-
ened each adventure of boyhood, but now came less often, and for its rareness was the more memorable. As I drowsed towards sleep, excitement gave place to that deep and all-embracing contentment, which knows no counterfeit and is the richest coin with which body and mind give recompense for toil.
HENISHISH camp marked the end of the preliminary phase of our expedition; the foundation for survey and botanical work was now laid. In future we would travel more rapidly and through finer country. Already we were far behind our intended programme and some of the journeys we had hoped to make could not now be attempted. But this was no time to regret the past, or deplore the limitations of the future; all our energies and thought would be necessary to make the best of the remaining fragment of summer.

The depot of stores which Shipton had already laid near Hispar pass contained some dozen loads of ata and a little tinned food. This would provide the bulk of the Sherpas' rations, but all our European food and our equipment remained to be moved. Fountaine, Secord and their Sherpas were still engaged on their reconnaissance, and to carry our loads, there were only three Europeans, Shipton, Mott and myself, seven Sherpas and Mahmud. Clothing and equipment were reduced to a minimum, but when we left Shenishish the Sherpas were carrying a hundred and twenty pounds or more, while our own packs weighed eighty pounds.

Our route lay diagonally across the glacier, which was here a mile wide, to a terrace on its northern flank some four miles above. Except for a narrow lane of clear ice near the centre, the glacier was covered with moraine. Progress was at first easy; the stones were small and the ice lay in gentle hummocks. But at the margin of the clear ice we came to a roaring torrent. It was only a couple of feet deep and three or four yards wide but none the less it formed a greater obstacle than a normal river many times larger. Glacier streams flow with remarkable rapidity, even when the gradient is gentle; the smooth hard ice, like polished marble, offers negligible resistance to the current and provides a most uncertain footing. Consequently unless the streams are very small, bridges formed by rocks or flakes of ice are the only practicable means of crossing. It is
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not uncommon for these streams to flow unbridged for many miles on the great Karakoram glaciers; they may restrict greatly the choice of routes. We were, however, fortunate today. An overhanging gallery of ice led us to an ice bridge over the first stream and later, when we came to a second and larger one, we were able to crawl over a precariously wedged block of stone.

With our loads we made slow and dismal progress but even the moraine of a great glacier holds some interest. Here and there in hollows, not disturbed for many months, were patches of a ‘willow-herb’, Epilobium grandiflora, a handsome plant with large magenta flowers. Contrast with its surroundings enhanced its beauty, making it seem among the finest of all flowers. Occasionally we passed ‘glacier tables’—large flat rocks perched on ice columns which they protect from the melting sun rays. Sometimes they rise many feet above the glacier like giant toadstools; under the largest which we saw, two Sherpas could stand comfortably. Only large stones become raised in this manner. Small ones by contrast sink into the glacier. This is because the upper surfaces of stones absorb more of the sun’s heat, by virtue of their dark colour, than does ice. If the stone is thin, the extra heat is passed by conduction into the glacier which therefore melts more rapidly. Stones of an intermediate size remain indefinitely upon the surface, the heat they conduct being equal to that which the ice beneath them would absorb if exposed to the sun. Stones an inch thick and four or five inches square behaved in this manner.

Towards the northern flank of the glacier the moraine became more broken, and as I stumbled under my pack I marvelled at the unquenched merriment of the Sherpas, laden twice as heavily as ourselves. Before us was the depressing outline of a steep scree, three or four hundred feet high, which it would be necessary to climb after leaving the glacier. The prospect of carrying my load up it seemed appalling; but I was reckoning without the Sherpas. During the final hour they forged ahead, and before we came to the foot of the scree they had already reached the top. Without pause those who were our personal servants dropped their loads and raced downwards

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to carry ours. Our formal protests that we were but doing our share of the work were brushed aside; they would not rest while we carried loads. When we reached the camp a clear dung fire was already burning to make us tea. It was just an example of the attitude of the Sherpas. My own sack never weighed more than two-thirds of Gyalgen’s, usually much less, yet he was always anxious to add half of mine to his.

In camping lore also the Sherpas excelled us except, as we found later, in the use of primus stoves. They are undisputed experts at fire lighting. When wood is wet the human bellows soon kindles a flame. The chest capacity of a Sherpa is phenomenal and when he blows from the distance of three or four inches nothing can fail to ignite. Ashes and smoke fill the air, causing us with sensitive European eyes to flee, but the Sherpa’s eyes are immune to smoke and when the fire is at last burning he emerges laughing. For handling fire he has another convenient characteristic; his hands are insensitive to heat and he picks up hot utensils or hands round live coals to light our pipes without discomfort. He is also adept at pitching tents. A sergeant-major of the old school would not be impressed—canvas is not uniformly stretched, guy lines are not used as the makers intended, and the tents are set in no geometric plan—but they stay up and the doors face away from the stormy quarter, which is all that matters.

In our first camp on the northern side of the Hispar glacier we remained for two days while Mott made a trigonometric station on the hills above. Rain and cloud delayed him but the time was turned to good use by the Sherpas who carried food and firewood to the depot below Hispar pass. I passed my time plant hunting on rather unrewarding slopes. Unfortunately a small rockfall upset the theodolite on Mott’s last station. He was unhurt but the instrument was damaged; thus he was able, with a clear conscience, to reduce his equipment for the crossing of Hispar pass by some forty pounds. Fortunately the photo-theodolite, and the Wild plane-table fitted with a telescopic sight, though less accurate, proved adequate substitutes.

Two further marches, mainly in drab moraine troughs,
brought us at length to the depot which Shipton had made while we were crossing the Nushik La. It was situated on a gentle slope, rock-strewn and dotted with a few hardy plants of which the most striking was a blotting-paper-like daisy named *Saussurea*. Several small overhanging rocks sheltered our stores and water was within reach. Hispar pass, at the head of the glacier, was still three or four miles off but nearer to it there was no convenient camping ground.

Our party was now united for the first time since leaving Nagir six weeks before. Fountaine and Secord with their two Sherpas had returned, and Fazal Ellahi had arrived after occupying many plane-table stations on the lower part of the glacier. His map, already beginning to take shape, confirmed our suspicion that the glacier was shorter than had been previously thought. Existing maps showed it to be nearly forty miles long, but before our surveyors had finished it had shrunk to thirty miles; conversely six miles were later added to the Biafo, the other major glacier in this region.

Two final trigonometric stations were necessary to complete our map, one on either side of the glacier head; to them Shipton and I accompanied Mott. The northern station was spectacular, a small rocky tower, fifteen hundred feet above the glacier, and joined by a narrow rib to the main massif. The slender tower with Mott's photo-theodolite poised on a crumbling ledge made a perfect foreground for what was perhaps our finest view in this region—below us was the broad Hispar névé and beyond rose the most easterly and the highest summit of the South Hispar Wall, a grooved face of rock patterned with a tracery of ice and capped with a frail wedge-shaped tower. Far below in the icefall leading to the Hispar pass we could see the minute moving dots of Fountaine, Secord and the Sherpas carrying loads to Hispar pass, which we planned to cross on the following day.

I have already mentioned the poor quality of the Nagir coolies, and the disadvantage in which their disaffection placed us, but to the Mir who ruled them and his family we were indebted for many acts of generosity. Runners from the Palace were sent up the glacier at regular intervals to bring us mail.
and baskets of fruit. The flavour of lush peaches and apricots—the only fresh food we had—still lingers, as also do the quaint letters which accompanied them. The court scribe took the name ‘Eric’ to be an honorific title, and to Shipton he penned letters of great and formal courtesy beginning with the rather intimate address ‘My dear Eric’. Our present camp was the farthest point which these messengers could reach and we spent our last night there writing letters—for the next eight or ten weeks we expected no contact with the outer world.

Next morning before sunrise we struck camp and marched towards the Hispar pass. For two hours our way lay up the hard glacier ice which rose gradually to the final icefall perhaps a thousand feet in height. Caution demanded that we should now tie ourselves to the climbing rope, as great crevasses gaped on either side. However, they delayed us little, and it was still early in the morning when we came to the flat monotony of a long snowfield rising almost imperceptibly to the pass, a mile and a half distant. The snow was soft and the sun mercilessly hot. I experienced that energy-sapping effect which is usually called glacier lassitude. Various explanations of its origin have been advanced, for altitude and temperature do not seem adequate cause. One theory is that oxygen is absorbed by ice to a greater extent than the other gases of the atmosphere, so that the oxygen supply, already low, is further reduced in airless glacier hollows. A less involved explanation is that lack of variation in the terrain makes the mind exaggerate fatigue.

On the approach to Hispar pass a transient abdominal unrest accentuated my lassitude; an added grievance was the seemingly exceptional activity of my companions. I have never been more glad to reach any objective than when the foreground gradually fell away and Conway’s ‘Snow Lake’—the great névé basin of the Biafo glacier—lay at our feet.

The crest of the Hispar pass (16,910 feet) is ill-defined and the névés of the two great glaciers, Hispar and Biafo, merge imperceptibly one into the other. Usually the crests of glacier passes are formed by ridges of rock but there is no such clear boundary here, and it would be possible to walk up one of the glaciers across the pass and down the other, a distance of some
"Snow Lake" and the "Ogre," from Hispar Pass

19,400 ft. Peak from Hispar Pass
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seventy miles, without once stepping off glacier ice. There can be few other places in temperate regions where a glacier journey of this length can be made.

It was now midday and, leaving the surveyors at work, we continued half a mile farther, to the top of a crevasse jumble and pitched our tents on a shelf of snow. For me this camp was in the nature of a holiday. For the first time in several weeks I had no plant specimens to sort, no notes to write. As soon as the tents were pitched time was my own; I could enjoy doing nothing without feeling that I was letting a precious opportunity slip.

The afternoon through I lay in my sleeping-bag gazing through the tent door. Below was the broad levelness of the Snow Lake, unsullied ice glistening in the sunlight. Beyond rose that great ice-decked massif, shaped like a crouching monster, which Conway named the 'Ogre'. The whole landscape was suffused with azure opalescence so that ice and barren rock were neither barren nor unfriendly. After our weeks beside moraine-strewn glaciers this blue-white scene seemed of a different planet. We had now truly reached the great mountains. Even the crevasses were of a finer colour. On the lower parts of glaciers the cleanest ice is soiled to some degree, and on the brightest days the crevasses are a greenish-blue. But here they were the purest turquoise; pale near the surface, increasing with depth to a rich intensity so great that it seemed an iridescent fluid filled them. So pure was the colour that not even in the deepest crevasses did it turn to black as does the less pure colour of the lower glaciers.

On the southern flank of Hispar pass a steep ice wall, fluted by avalanche and wind, rose to the scimitar crest of a wide col—the last battlement of the South Hispar Wall. To the north was an island mountain, a gentle pyramid bounded on three sides by the Snow Lake and on the fourth by ice tributaries of the Hispar. Mrs. Fanny Bullock-Workman had reached its summit with the guides Kaufmann in 1908. Naturally enough we referred to it by her name. No other summit in the entire region had been reached; among these difficult mountains this peak was unique, being easy of
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approach. The circumstances of the first ascent were likewise unique; while Mrs. Bullock-Workman and her guides climbed the eastern ridge her husband went to a lower point. Thence with telescopic lens he photographed his agile wife gaining her peak; an incident which should have heartened the suffragettes, then coming into prominence.

The peak would be a superb viewpoint, and Secord and I set out to climb it while the others occupied several survey stations. Two porters, Gyalgen and Lobsang, went with us, carrying a plane-table so that we could take angles to distant peaks to supplement the main survey. The south-west ridge offered the shortest route and we reached it speedily by way of a wide snow basin. A short passage of step-cutting led us to the ridge crest where ice gave place to loose rock, but the angle was not excessive and we made good progress. Towards noon we reached the summit. The speed of our ascent supported an opinion we had held ever since the peak came first within our view—that the recorded height, 21,300 feet, was much exaggerated. Later we were not surprised when our surveyors found it to be merely 19,400 feet. We remained on the sunlit peak for three hours working in turn upon the plane-table. The air was windless and so warm that we sat comfortably, our shirt-sleeves rolled to the elbow. To the furthest limit of the horizon no cloud obscured the view of ice-clad ranges heaped range upon range. Yet in all this array we could number on our fingers the summits bearing names; the Kanjuts and Makorum peak above the Hispar, Nanga Parbat in the south-west, Ganchen and Meru in the south, the 'Ogre' and K2 to the east. Even the more distant of these we could not identify with certainty, such was the welter of peaks which lay before us. In the whole wide landscape there was not a trace of greenness or of life. A flock of geese high in the sky above us, their white wings turned to silver by the sun as they flew southward, alone recalled the watered valleys between the mountains.

The atmosphere was so clear that photographs taken without a colour filter gave a dark background sky. Distances were little softened; everywhere was sharp brilliant detail. The eye
was tired by the complexity of interlacing ranges. It was unable to resolve their relationship one to another, and the grace of each perfect form was lost in the abundance of perfection. Imagination strayed onward to the hidden peaks beyond. Scarcely one-hundredth of the mountains of the Himalaya were within our view. The mind strove to grasp this greater vision but could not, for the immensity of the Himalaya is beyond human comprehension.

From the distant ranges it was relief to turn to the Snow Lake which lay spread like a map below us. Here was a problem more nearly within our powers and we made notes and sketches to aid our future journeys.

We decided to descend by the snow-covered west ridge, which is part of the watershed linking our peak to the main mountain chain. It seemed that, at a point fifteen hundred feet below the summit, we could drop down into the snow basin by which we had approached the peak. For a short distance from the summit the snow was good and only when we had gone too far to consider returning was there any indication of the unwisdom of our choice. Then the snow petered out and for two and a half hours we cut steps in ice harder and more vitreous than any I had previously experienced. It happened that at this time I was at the front of the rope and perforce remained there. After the first hour I wished greatly that the order could be reversed; no doubt my companions found my slow step-cutting as tedious as to me it was arduous. Reaching at length the spot where we had planned to descend into the basin we realized that the steep intervening slope was ice, not snow; to avoid further long cutting we continued along the ridge towards a more gentle exit.

It was already late afternoon. For a short distance we progressed rapidly but soon rock teeth rose awkwardly through the ice mantle of the ridge and another precious hour slipped past. Sunset flamed unheeded but it was not yet fully dark when we rejoined our outward tracks. Night advanced rapidly, for we were descending into its shadow, and through the grey cavern of the snow basin we groped our way back to the tent.

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It was now two hours after sundown, and we had no reply to the silent criticism of our companions who were anxiously awaiting our return.

For yet another day unsullied weather remained with us, and while the surveyors continued their work Secord and I moved camp to a sort of Clapham Junction where the main branches of the Snow Lake meet. This was to be our base for several journeys and it is conveniently referred to as Snow Lake camp.

In shape the glacier system resembles two capital 'T's' one standing on the other, with the upright stroke of the upper 'T' shortened, thus: T. The down stroke of the lower 'T' represents the Biafo trunk and the two cross strokes and the line joining them, the main branches of the Snow Lake. Hispar pass is at the head of the south-west or lower left-hand arm and our Snow Lake camp, approximately 15,500 feet above sea level, was on the cross beside the exit of the Biafo trunk. As we could find no moraine on which to camp we pitched our tents on the glacier, making as comfortable a camp as was possible on ice. To save fuel, we sent six Sherpas a day's march down the Biafo to bring up firewood. A few flat stones made a pleasantly incongruous fireplace on the ice.

Fountaine and I spent a day visiting the north-east branch of the Snow Lake in the hope of finding a pass across the watershed to the north. What we saw determined the plans for a journey later in the season. We returned to Snow Lake camp through the first spasms of a storm which lasted throughout the night and most of the following day, making all travelling impossible.

Within the tent I tried to assist Mott with his calculations, and read Carlyle's French Revolution by turns. I had chosen this as the one book for which there was room in my pack, partly because it was lengthy, and partly because a very light India paper edition had been available. After reading it I had more solid reason for my choice. Leisure among mountains is ideal for reading that literature, styled serious, for which normal life gives insufficient time.

Storm-bound days in an alpine tent are strangely timeless
and negative. Probably one of us wakens at sunrise or when sunrise should be. But for us there is no sunrise and no sun; the flat white light seems to come from nowhere in particular. We agree that the bad weather is most aggravating; still, as it has been fine for the past fortnight, the prospect of a day’s leisure is not entirely unpleasant, but it is not done to admit this. We resign ourselves to a shrunken universe measuring seven feet by five with its highest point five feet above the floor. The atmosphere is a patchy greenish-brown from the soiled tent fabric. Undeniably there is a ‘fug’. Our sleeping-bags entirely fill the floor of our world; neither of us can move without disturbing the other. The decision to do nothing today has been made and we drift slowly back towards sleep until the tent door is opened cautiously. A laughing Sherpa face greets us and two very dirty hands present two rather dirty cups of tea. Two plates of porridge and two chapatis follow. Then we light our pipes; mine is blocked and makes strange bubbling noises. A pipe cleaner? I feel everywhere for one. Surely that was where I put them last night. My companion’s tea is half spilled and I put my pipe away. Instead I light a cigarette and pull the French Revolution from that excellent pocket in the side of the tent into which one should put small articles but usually doesn’t. I become dimly conscious that my matches have slipped away, losing themselves inside or beneath my sleeping-bag. Were I to look for them the French Revolution would certainly get lost; I decide to chain-smoke. Meanwhile the Bastille becomes more real than the Snow Lake. I read for perhaps an hour then something, conscience perhaps, tells me to write my diary or do some arithmetic for Mott. In the upheaval Carlyle disappears and when my task is done I drop off to sleep again. Lunch comes —tea, chapatis and cheese; all, as at breakfast, faintly redolent of paraffin. Afternoon follows . . . we talk, smoke, read and drowse.

Sooner or later comes the frightful necessity of leaving the tent; first getting out of the sleeping-bag, then into boots, opening the door and crawling out. Fortunately little snow is falling and the wind has dropped. The cold clean air makes
us feel more awake than we have all day, and we look into the Sherpas' tent—a chaos of laughter, bodies, smells, food bags and cooking pots around the primus. Then we drop into Shipton's tent for a chat, but it is chilly out of our sleeping-bags and we return to more reading, talking, smoking until the evening meal. Darkness gathers. We have insufficient candles to read by so we talk endlessly—even my capacity for talking is exhausted—and we drop to sleep hoping fervently for fine weather in the morning.

Plans for the future had now taken shape. As soon as we were able to move, Shipton and Fountaine would travel down the Biafo glacier, going thence to the Panmah glacier in the east to make a photographic survey; Secord, his time up, would return to Srinagar; Mott and I would visit the glaciers west of the Biafo, especially Sokha and Solu glaciers, and then proceed to Askole near the foot of the Biafo glacier.

These journeys would occupy three weeks. Shipton and Fountaine would then return to the Snow Lake by a pass leading into its south-east arm and there part company, Fountaine descending the Biafo to join Mott, while Shipton would await my arrival from Askole with additional stores. The latter part of the season Mott and Fountaine would spend exploring the Chogo Lungma glacier, if possible crossing from its head to Gilgit, while Shipton and I would explore the country north of the Snow Lake. Throughout this time Fazal Ellahi was to map the Biafo glacier in detail, and eventually rejoin Shipton and myself to recross Hispar pass and return to Gilgit through Nagir.

At first glance this programme may seem unnecessarily complicated but in practice it was simple and straightforward. Moreover it ensured that the most important jobs would be done first and it also enabled us to replenish food supplies from the highest villages at regular intervals. This was particularly important as our troubles with the Nagiri coolies had forced us to reduce the stores we carried across Hispar pass to a very narrow margin.
The door of the tent that Mott and I shared at Snow Lake camp faced down the Biafo glacier. To the east rose ice-plastered faces building up to the bold summit of the ‘Ogre’; to the west were walls of rock, so steep that no snow lodged upon them, leading to abrupt summits six or seven thousand feet above the glacier. They were less like peaks than great monoliths; Conway had named them the ‘West Biafo Wall’. Somewhere behind this rampart was the Sokha or Cornice glacier—that rather legendary place where Dr. and Mrs. Bullock-Workman had claimed to be ringed in by cliffs and undrained by any stream. Two years before Tilman had crossed a pass in the West Biafo Wall, reached the Sokha, and travelled down the quite ordinary river which drains it. But he had neither the time nor equipment to make an accurate map of the Sokha or another glacier in the same region, the Solu, which he referred to as the ‘Garden glacier’ because of meadows which he found beside it. Mott’s first objective on the journey he and I now undertook was to add both glaciers to his map. I, for my part, had been encouraged by Tilman’s report to believe that I would find a rich flora.

From Snow Lake camp, Shipton and I had reconnoitred the West Biafo Wall and reached a pass, but it fitted poorly with Tilman’s description, and Mott and I spent the first day of our journey seeking an alternative. We found none and camped below the pass we already knew; it lay at the head of a small and steep glacier, two thousand feet above the Biafo. On either side sheer faces walled it in. Three Sherpas travelled with us. Our packs were too heavy to be manageable on the steep ascent and before nightfall a few light loads were left seven or eight hundred feet below the crest, where the difficult part of the climb began.

Our two tents were pitched close together on a glacier terrace, and as Mott and I lay in our sleeping-bags awaiting the evening meal we watched the pyrotechnic display which
the primus invariably gives in the hands of Sherpas. Its correct use is beyond their comprehension. This should perhaps be counted to their credit, a proof of the small extent to which the mechanized civilization of the West has contaminated them. But in glacier camps it is a disadvantage. Water finds its way into the reservoir of the primus and paraffin into the cooking pots. The jet is invariably dirty and the Sherpas' enthusiasm with the pump leads to a quite surprising pressure. The primus responds with intermittent grunts and sudden bursts of flame which lick the roof. However, the risk of fire is small for the tent is usually dripping with moisture of condensation. Left to themselves the Sherpas in time produce some sort of meal but to Mott's engineering mind the delay and the waste of paraffin was abhorrent. The Sherpas were grateful for his assistance and the primus was soon purring correctly. Our meal approached with unusual speed but to me, a detached spectator, it seemed that the Sherpas' method of cooking was much more entertaining.

Next morning we were astir early and at eight o'clock reached a bergschrund which barred the upper slopes. Nowhere was it bridged, but in an icicle-draped corner we were able to carve our way upward to a slope of steep, unyielding ice. Hand as well as foot holds were necessary for our laden men. Two and a half hours of step-cutting brought us to the pass.

In the Alps most amateur climbers use crampons to reduce the toil of step-cutting, and when they require steps they are usually small ones—sufficient perhaps to hold half the sole of a boot. But when one travels in the Himalaya with porters, cutting cannot be avoided. It is impracticable to equip the porters with crampons, and steps large enough to hold an entire boot must be made. Smaller ones cannot safely be used by laden men.

Tilman had met with considerable difficulty in descending to the Sokha glacier and we were surprised to find an easy route to the level ice of a glacier three thousand feet below us. The divergence between Tilman's experience and our own indicated some difference between his route and ours. Was
West Biafo Wall (Pass to Sokha Glacier visible in upper picture)
Sokha Glacier. Route from Biafo Glacier through cleft in centre

Tributary of Sokha Glacier
it then the Sokha glacier that lay before us? We thought so, for there seemed no other route across the West Biafo Wall; but two days passed before we realized the reasons for the differences between Tilman’s experience and our own. We had followed a route some hundred yards to the right of his and had reached the crest at a point several hundred feet lower. A steep rocky rib running down to the Sokha glacier prevented him from following the easy line of our descent while his route was quite impracticable at the time of our visit. This indicates how greatly crevasse conditions may change from season to season in the Karakoram.

In late afternoon we came to a charming camp site amid grass and flowers on the bank of the glacier. For the last ten days we had camped on snow, and it was over twice that time since we had trod soft turf or seen plants other than the hardy dwellers of the rocks and screes. On the glaciers we had been confined each night to the cramped smallness of our tents. Hot food and drink had been limited by our small supply of fuel and the time necessary to melt snow; despite our double sleeping-bags the cold of the glacier had risen into our backs during the night. Now, for a season, that was over. We could walk barefooted on the soft grass, enjoying the living fragrance of flowers after the scentless emptiness of the glacier air. When evening descended we could sit round a crackling fire till, supper over, we crawled into our sleeping-bags, beneath the stars. Of this contrast I never tired. It is one of the most delightful features of an expedition such as ours. Each descent to the valleys brought fresh delight, and when the time came to return to the high places we were equally grateful.

In other ways too the Sokha contrasted sharply with the country through which we had lately travelled. Ice-fluted peaks had now given place to steep rock faces, bearing little snow, which crowded in closely upon the narrow glacier. The rock architecture was remarkably varied, like a London street where a Gothic church may be sandwiched between a Victorian mansion and a ferro-concrete block of flats. On one hand was the modernistic motif of broad-based towers and
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monoliths, architecture on the grand scale but lacking detailed fineness; on another rose the Gothic elegance of delicately graceful spires and pinnacles of fretted rock; further off were summits of less distinctive form.

The nature of the country made surveying particularly difficult. Normally maps are made by extending gradually a network of triangulated points, fixing the positions of new ones from those already known and filling in detail with the plane-table or photo-theodolite. As soon as we crossed the West Biafo Wall all fixed points were hidden by the great crags which hem in the Sokha glacier and it was several days before we could see any of the summits that we knew. Mott had thus to make a ‘floating’ survey to an assumed scale and azimuth or orientation. Later when we had seen a number of fixed points he was able to adjust his map and join it to the Hispar survey.

The botanist’s was a happier lot; the days were pleasant and sunfilled. We moved slowly down the glacier until after a strenuous week Mott had completed his survey. Sometimes I went with him to his survey stations but the most of my time was spent collecting specimens, and I soon regretted the smallness of the presses I had been able to bring with me. In general the flora resembled that which grew beside the Hispar glacier, but it was more varied and luxuriant. Several genera—among them gentians—which hitherto I had seen rarely or not at all were common on some slopes.

A curious feature of the vegetation—and one not confined to the Sokha valley—was the presence of occasional aged juniper trees in localities where seedlings of this type could not today gain a footing. Almost always they were fantastically gnarled; I remember one which would have delighted Arthur Rackham, on the very crest of a moraine terrace with no other trees within a considerable distance. How did they get there? Were they survivors from the vegetation which flourished before the glacial advance of the past hundred years? Or had the trees been planted, perhaps to mark routes? The situation of some of them made the latter explanation seem improbable but I can suggest no definite answer.
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Always we found pleasant glades in which to camp, and evening became a part of each day to which I now looked forward keenly, not regretting its chill advance as we did in higher camps. All men are more at ease and talk more freely beside a fire after their day’s work than at any other time, and by our camp fires our understanding of the Sherpas grew. We spoke a peculiar language—Hindustani, English and gestures mixed—but it conveyed more than a casual observer would have supposed. Simple people delight in talking of their wives and children, and we heard much of the Sherpas’ domestic life. Gyalgen was a proud father and a crumpled snapshot of his wife and son was often handed round the fire. I was flattered when he presented it to me at the end of the expedition. One evening he tried to tell us something about his wife which we could not understand. Usually our language difficulties ended in helpless laughter, and the forgetting of what we wished to say, but tonight Lobsang explained Gyalgen’s meaning. He had gone unnoticed to where the Sherpas’ kit was lying and stuffed three or four sweaters inside his shirt. Then he burst back into the firelit circle digging his tummy with his thumb and shouting, ‘Gyalgen mem!’ . . . Weeks later in Gilgit came the expected news of the birth of Gyalgen’s second son. He was a very proud father. As soon as he got back to Darjeeling he was photographed with his enlarged family; a copy of the photo followed me back to England.

After the map of the Sokha and Solu glaciers was completed we were to visit the Ganchen massif immediately to the south, and we hoped to find a pass leading directly towards it. One afternoon we came abreast of a narrow tributary glacier seemingly coming from the correct direction and with Gyalgen I set out to reconnoitre it. The surface of the glacier was remarkably smooth and much sooner than we had expected its head came into view. My hopes rose, for before us was a pass which we could reach with little difficulty. Only a short ice slope intervened. Two crevasses crossed it but crests of snow bridged them and led us quickly to the top. An extensive panorama lay open before us—down the Shigar valley and onwards to the Kashmir ranges. But rock faces fell steeply
from the pass to a valley which was not only inaccessible but also ran in the wrong direction.

After a short halt we began to make our way back to the Sokha glacier. Hitherto we had not used our climbing rope but I thought it a wise safeguard for the first few hundred feet of the descent; Gyalgen uncoiled the rope reluctantly, hinting that I was over-cautious. Above the upper crevasse was a steep and exposed bulge—the type of place which is more dangerous to descend than to ascend—and we moved one at a time. Gyalgen passed out of sight below me. I had told him to halt on a small platform below the upper crevasse and soon he shouted for me to follow on. When I was on the steepest part of the slope the rope suddenly tightened, I heard a muffled shout, and Gyalgen’s full weight came upon my waist, nearly dragging me from my steps. Then for a moment—it seemed an age—dead silence fell. Not a sound or a breath of wind stirred among the hills. I wished I was at home.

I could see the slope a few feet below the crevasse but there was no sign of Gyalgen. He had obviously fallen into the crevasse and I visualized him hanging, perhaps unconscious, on the rope. With his weight about my waist I could not move—it took all my strength to hold myself in my steps, and I was still wondering what to do when the rope suddenly came back to life. It nearly dislodged me for the second time but I welcomed it as proof that Gyalgen was conscious. Faint noises floated up, the tension on the rope eased, and a few seconds later his head appeared out of the slope some distance below the spot where he had disappeared. The two crevasses were in fact one with two openings. Gyalgen had fallen through the upper entrance and after swinging on the rope he had managed to scramble out of the lower one.

For almost the only time in our travels I saw his face without a smile; but he was crestfallen, not injured. He had lost his ice-axe, which is a great disgrace among mountaineers. A day on the Matterhorn two years before came to my mind: I felt very sorry for him and told him not to move until I reached him. Then I started to descend. A few yards brought me within sight of the upper crevasse. An ice-axe lay on the
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snow. Foolishly I told Gyalgen and with a shout of joy he ignored my instructions and bounded up the slope.

The rope joining us was threaded round a large block of glacier—from me down through the upper opening of the crevasse, out through the lower one and then up the slope to Gyalgen. Thus though he was approaching me the rope tightened. A threaded rope usually jams if you wish it to run free; the converse now happened. Gyalgen’s happy bound was transmitted through the glacier to my waist. I turned a neat semicircle in the air, over the hole where Gyalgen had disappeared, over Gyalgen himself, and came to rest a few feet lower down the mountainside. However, we were now both on the outside of the mountain and both unhurt. Disentangling the rope we returned to the gentler slopes below.

Gyalgen was very chastened by his mishap. Several times he said that he would have been dead but for the rope, and he now wished to use it long after it became unnecessary. Towards sunset when we left the glacier he discovered yeti tracks, our first on the Sokha. For once I agreed with him and discussed the likelihood of Snowmen living in large crevasses. Gyalgen thought my suggestion in bad taste, nor was he pleased by my loitering in the half-light to collect plants. But when we reached camp, with its cheerful evening fire, he led a chorus of mirth over our afternoon adventures. The Sherpas are blessed, or cursed, with a lack of imagination for danger. Until they have been saved by a rope, or seen others saved, they think it of little value—a thing used to please their employers. So our mishap had perhaps some value.

No other pass gave any hope of a route to the Ganchen basin and it was now necessary for us to follow the glacier to its snout and then descend to the Basha valley, reaching it a few miles below Arundu, which Betterton and I had visited earlier in the season. This added to the length of our journey and I should therefore have to go on at once to Askole if I were to keep my rendezvous with Shipton on the Snow Lake. Mott decided to accompany me and later approach Ganchen from the south.

Near the terminal face of the Sokha glacier we came to a
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small and bleak village named Darpodas. There was a huddle of perhaps a dozen stone huts, with a meagre strip of cultivation beside them. So far as we could gather its hundred inhabitants dwelt there only in the summer when cattle were taken to the upper pastures. The villagers said we were their first European visitors—Tilman had apparently followed the opposite side of the valley—but even so this hardly justified the indecent curiosity with which all our affairs, even the most intimate, were watched. Moreover our camp site was poor and stony and we could purchase little fresh food.

When we were near villages the Sherpas treated us with a special and distant respect, very different from their cheery informality when we were alone. Their contempt for the local people was supreme, they had no doubt that the social gulf between the villagers and themselves was at least as great as that between them and their sahibs. By exaggerating our status they felt their own was also enhanced; but at Darpodas their efforts were without effect.

Next morning we set out to the Basha valley. Our way lay down the narrow valley which drains the Sokha glacier. It was a disappointingly ordinary valley considering the controversy which once raged over its existence, but after we had been travelling for perhaps two hours the track swung sharply around a bluff of rock, the barren hillsides receded, and the great Basha valley lay suddenly before us. Three thousand feet below was a village set in rich meadows with shady trees half hiding low stone houses. Cattle were browsing in the fields and near the houses were tiny moving specks of small boys playing. Their voices came faintly to our ears. Beyond, the mountains rose again to the dim outlines of great peaks. But for them we had no eyes; it was the greenness of the village which attracted us, and forgetful of our loads we swung towards it down the mountainside.

Our arrival caused little stir. Curiosity there was, but it was unhurried—now, this evening, tomorrow, it would be all the same. Only the children and the village pi-dogs betrayed excitement. Slowly the village elders came forth, old men, grey-bearded, clad in flowing homespun cloaks. They greeted
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us with quiet and apparently unsurprised dignity, and led us to a pleasant camp site in a shaded field a short distance away. No hosts could have been more courteous. News of our arrival spread and the people gradually gathered round us. Some came to sell or give us fruit and sheep and eggs, others merely to gaze, but the great majority sought medical aid. An ex-Sepoy, resplendent in an aged khaki tunic, acted as interpreter. He was the one man in the village who spoke Hindustani and, as he claimed, English.

Our medical supplies were scanty but faith still works its miracles and our patients possessed it. But there were many for whom we could do nothing—grotesque deformities, the result of ill-set bones, goitres like pumpkins, and internal disorders. We could only recommend the nearest Government dispensary, many days' journey distant, but we knew that our advice would be unheeded.

We were now living principally on local produce—eggs, chickens, ata, tsampa, ghee (clarified butter fat), dried apricots, sometimes ghour (semi-solid molasses) and occasionally a sheep. The small size of our party enabled us to live in this way without overtaxing the scanty food reserves of the villages, and it was a healthier diet than the contents of tins. Tsampa became one of our chief articles of diet. It is prepared by toasting roughly-milled barley flour in iron pans to a pale-brown colour; it can then be stored in bags for weeks. It is a staple food of Tibet, being very suitable for nomadic people, among whom we could now temporarily number ourselves. The normal way of eating tsampa is to knead it into a cake with Tibetan tea. Each man does it for himself at the dinner table and the neatness of his tsampa cake is the accepted measure of table manners in Tibet. Careful judgment is necessary—too much tea makes the cake stick to the fingers, too little makes it crumble. We found it simpler to make our tsampa into a gruel with tea, sugar, butter and anything else we had, and eat it with a spoon. The mixture is surprisingly palatable and easy to digest. Despite repetition I never tired of it and I found it the ideal breakfast. A large plateful carried me happily through the morning and it had the great advantage that only one pot
of water had to be boiled for the Sherpas' breakfast and our own. Thus we were able to be early on the road.

Five days brought us down the Basha valley to its junction with the Braldu and then upwards again to Askole—leisurely marches, for the local porters we had engaged would not go beyond the short stages into which the road was divided by evil custom. We had reached the Basha at the highest point where fruit trees grew and as we travelled downwards through the harvest of apricots and peaches each village was more luxuriant than the last, until Chu Tran where huge white grapes were added to our diet. The pleasure of over-eating recompensed its discomfort, and I reconfirmed a schoolboy belief, that the cure of that disease is the repetition of its cause.

Chu Tran is the headquarters of a minor Rajah who called on us with his two small, overdressed sons. The most striking characteristic of the Prince and his children was their puny physique; it contrasted sharply with that of his simpler-living subjects. His visit lasted two hours, and only the unending supply of grapes which retainers cut from the vines, which draped the trees above our heads, made it tolerable. Besides its Rajah, Chu Tran possessed a hot spring and there Mott and I spent half the afternoon; it was our first hot bath for many weeks. Soap was lacking, but we found in mud a most efficient substitute. The intermediate stage between cleanliness and dirtiness is less pleasant than either extreme and our bath gave rise to the desire to cut our beards and hair. We had no comb and no scissors, except a blunted pair with which I trimmed plant specimens. With this meagre equipment we each operated on the other; it was probably fortunate for the harmony of our camp that we had no mirror in which to view the extraordinary results.

At the junction of the Basha and Braldu valleys our altitude was only seven thousand feet, and the barren pastel-tinted hills which flickered in the heat shimmer seemed to belong to Aden rather than the Himalaya. Then, as we climbed again to Askole, the mountains grew about us and we experienced the same sequence of changing climate and scenery as we had passed through since leaving the Sokha glacier, but in reversed order.
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A few incidents of the valley are particularly vivid in memory. The highlight was my first crossing of a ‘rope’ bridge made of three ropes of willow twigs swung in the form of a ‘V’ above the river, nearly a hundred feet below. Smaller ropes held the three main strands in position. The upper ropes served as hand rails, the lower one as a foot track. I looked down to see that my feet were squarely on the bottom rope, but it was not on my feet that my eyes focussed but the foaming river; it seemed as if the bridge and I were moving upstream at a terrific pace. Then there was a noon of scorching heat when I stripped off my clothes and plunged into an icy stream so swift that I had to cling with all my force to a large rock to avoid being swept away. Dust and heat were in a moment banished and I scrambled out and lay for an hour of rare contentment on a warm half-shaded rock. And there was Chokpiong where the village elders, the most goitrous and hawk-like collection we had seen, tried to cheat us of two eggs and we were barely able to restrain the Sherpas from beating them.

The same evening we stood on the brink of a narrow chasm, easily jumpable by an athlete. Through this the Braldu river, the one outlet of two of the greatest Himalayan glaciers, the Biafo and Baltoro, plunged in such furious commotion that the noise of its passage was too loud for hearing; rather we felt it, the waves of sound surging against stunned ears. Two hours later we lay in our sleeping-bags on a terrace of the hillside watching a full moon rise above the opposing mountains; the earth was resting and it seemed that the voice of the river was now the melody of sleep.

On the outskirts of Askole we came unexpectedly upon a neat camp and soon we were drinking tea—the best I can remember—from china teacups with an officer of the Royal Corps of Signals. A month before, when he had left Srinagar on a holiday trek, there had been some discussion whether it was wise to take his leave; official opinion had, however, been optimistic of a peaceful settlement of Europe’s problems. It was now mid-September. . . .

In Askole I purchased ata, tsampa and chickens, eight coolie loads in all, to provision the Snow Lake camp, and parting
from Mott marched up the Biafo glacier, taking two of our three Sherpas and the local men. For two days the Signals officer accompanied me. The Baltistan coolies were much superior to Nagiris and our march was cheerful, unmarred by the least signs of discontent. On the fourth day the men made a depot of their loads three miles below the Snow Lake. They were not equipped to camp on snow and this was the farthest point they could reach without doing so. Gyalgen supervised the laying of the depot while I visited Fazal Ellahi, who was progressing excellently with his survey; he contrived a fine curry for my dinner.

The Biafo glacier is considerably longer than the Hispar. It is wider and its course is more straight and uniform in gradient. The Snow Lake is almost its only source, for few tributaries join it, and the rareness of exposed rock ridges in that region results in remarkably little moraine lying on its surface. These circumstances make travelling on the Biafo remarkably pleasant. A short passage of moraine led us to broad avenues of smooth ice, which carried us without interruption to the Snow Lake.

Our first marches brought little impressive scenery. On either side grey-brown hillsides bore upwards to hidden summits; ahead the broad glacier stretched as far as the eye could see. But as we journeyed onward the scene opened and on our left rose graceful ice-hung spires which merged gradually into the magnificent rock forms of the West Biafo Wall; on our right, pinnacles of shattered rock were piled precariously one above the other. Between, the glacier was so wide that from its centre both ranges could be seen, little foreshortened.

It was pleasant to return to the high snowfields and pitch our tent again at Snow Lake camp. Once again the valleys were behind us and the prospect of the next weeks in the country to the north was most alluring. Three days remained before Shipton was due, and there was just enough time for the Sherpas and me to bring up our stores from the depot left by the Baltis. Our plans had worked well, the snow was in ideal condition and as we turned down the glacier the sun shone so brilliantly that one felt good days could never cease.
Biafo-Khurdopin Watershed (Khurdopin Col, see page 230, is above and slightly to the right of leading figure)
Part VII

UNFINISHED JOURNEY

What is to come we know not. But we know that what has been was good.

W. E. HENLEY
Unfinished Journey

At home in our normal living we took as much interest as our average fellows in the affairs of the day, and during the months of preparation for the expedition we had followed keenly each move of the European drama. But once we set out, and Europe sank beneath the horizon, the political stage became unreal. The importance of England now lay only in our homes and the friends who lived there. When mail reached us newspapers seemed trivial beside letters, and we were little inclined to use our small wireless set for receiving news.

Never did the affairs of Europe trouble me less than on those days with Gyalgen and Lobsang on the Biafo glacier. The Signals officer had discounted fears of a European war, the present held the pleasure of the Sherpas' company and the beauty of the peaks in those days which in recollection have seemed the Indian Summer of my climbing. Before me stretched the promise of another year among the mountains. Small wonder that Europe was far from my thoughts when we turned down the Biafo from Snow Lake camp to fetch the stores left by the Baltis.

An hour brought us to the depot, time was not urgent and we sat, our backs against the pile, smoking before shouldering our loads. While we rested the Sherpas noticed two figures hurrying towards us from the lower glacier. Soon we recognized them as Tashti Futha and Mahmud, of Fazal Ellahi's party. Their approach caused no alarm; I assumed that Fazal Ellahi had remembered some undecided query after my visit a couple of days before.

When the men reached us we exchanged leisurely greetings and Mahmud kissed my hand after the embarrassing fashion of his people. A little idle gossip passed, and I enquired the reason for their visit. Then a yellow foolscap envelope was produced, a Kashmir Government envelope, addressed to Shipton and marked 'Urgent'. Inside, a message sent at the request of
Secord told that Germany had invaded Poland and made a pact with Russia. The message was dated September 2nd, nearly three weeks before. England was not then at war, but clearly there could be no other outcome. My enjoyment of our isolation now vanished; more than anything I now craved news. Our wireless set was at Shenishish beside the Hispar glacier and I decided to go there at once. Travelling rapidly we should be able to make the return journey in four days. We would be but a day late for our rendezvous with Shipton and, leaving a message at Snow Lake camp, we set out at dawn next morning.

We reached Shenishish as the first heavy snowstorm of the season was breaking. The flowers which had delighted our outward marches were brown and withered. It seemed impossible that this was the camp from which two months before we had set out with such high expectations. Evening drew on forlorn and lonely; the more so because the Sherpas with whom I had shared our one tent in recent camps now pitched a separate one for me in a quiet spot remote from their laughter.

Snow drifted against the tent as I set up the wireless set. I was not familiar with its controls, nor was I certain when the B.B.C. news bulletin was due, but at last the chimes of Big Ben came to my ears and that most perfect of voices announced: ‘This is the overseas service of the British Broadcasting Corporation’. The placid unconcern of the announcer and the scantiness of the bulletin made this, the first definite news of war, seem strangely incomplete and undramatic. Had I come from the Snow Lake merely to hear this? However, there was nothing else to do but fix the tent door against the drifting snow and try to sleep.

I had planned to start back to the Snow Lake at dawn but snow was still falling heavily and for the day it confined us to our tents. Lying there I tried to realize what the news meant. A pencil and a sheet of paper help to clarify one’s thoughts and for most of the day I lay scribbling in my sleeping-bag. Those notes are lost but the act of writing them gave greater permanence to my feelings than otherwise they would have had.
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When the first news reached us on the Biafo glacier it had not seemed real. I had found it impossible to believe that there was war in Europe; it was all so remote, and mentally I was utterly unprepared for it. The effect was numbing and the behaviour of the Sherpas heightened the sense of unreality. The Germans had been unpopular with them for many years. Each successive German Himalayan expedition with its brutal outlook and low valuation of human life had increased this feeling; almost all our men had friends needlessly killed on Kanchanjunga or Nanga Parbat. It delighted them that we were now at war; the ‘Germans’, hitherto the ‘German Sahibs’, at once lost their honorific affix. Only when we explained that the war would mean the end of our expedition did the Sherpas regard it as in any way a bad thing.

So I had returned to Shenishish certain that the news of war would be confirmed yet unable rationally to believe it; certain too that our winter plans would have to be abandoned. Yet I do not recollect feeling consciously annoyed on this account. There was no room in my mind for annoyance. That part of me which was not taken up with the immediate problem of reaching Shenishish was a prey to morbid and futile speculation. Had London been bombed, and my home? My anxiety was all the greater because it was so personal—mine alone—the Sherpas had no share in it. At Shenishish my worst fears had been allayed and I could now view the situation more rationally. Naturally my main preoccupation was how the war would affect us. We would return to England as quickly as possible; that was obvious. War was too great a circumstance for our lives to be unaffected by it. I felt impelled towards it by that illogical feeling—the dislike of being left out—which twenty years before had made me weep because I was not allowed to join a walking tour upon the Quantocks. Hitherto mountains and botany had filled my horizon; now a greater circumstance had arisen overshadowing them.

Thus, as I lay in my tent at Shenishish, waiting for the snowstorm to abate, I resigned myself to the future. It then seemed inevitable. Only later when the expedition was over did my resentment grow keen against that circumstance, which ended
our journey and gave nothing of value to others or ourselves to fill its place.

On the following morning we started on our way back to the Snow Lake. The new snow made travelling most arduous even on the level stretches of glacier. It was with difficulty that we reached our old upper Hispar depot by dark. The night brought more snow and another day of inactivity, but the storm had then spent itself. On the morrow a long trudge across the Hispar pass, waist-deep in new snow, carried us to the Snow Lake camp. There Shipton and his Sherpas awaited us. Half the night Shipton and I lay talking of the future; it was intensely reassuring to be with someone who shared my feelings.

What were we to do? Government had been interested in the organization of the expedition; clearly our first move was to return to Gilgit and seek instructions. But with our widely scattered parties this was not at once possible; Fazal Ellahi was due to reach Snow Lake camp in six days, and before he arrived we could not return across Hispar pass. Until then we decided to make a hurried exploration of the watershed to the north.
There is a legend persistent in the valleys of the Western Karakoram that a route once lay through the mountains southward from Shimshal to Hispar and the Biafo glacier. One of the two reasons for our journey to the north of the Snow Lake was to seek evidence of such a route. Our other reason was to link our surveys with those of the Vigererab and Khurdopin glaciers which Dr. Visser had made from Shimshal. The watershed is an offshoot of the main Karakoram. It runs westward from the Braldu pass at an altitude varying from nineteen to twenty-five thousand feet, and culminates in the Kanjut peaks. Beyond them it falls away towards the junction of the Hispar and Hunza rivers.

While we were ascending the Hispar glacier Shipton, Fountaine and Secord had examined several glaciers rising on the southern flanks of the watershed but they had found no pass; from the peaks we climbed north of Hispar pass we had seen that the western arm of the upper Snow Lake was equally unpromising. But the eastern arm remained. Fountaine and I had walked some distance up it; we had seen no easy route but east of an imposing pyramidal peak there was a saddle nearly twenty thousand feet in altitude whereby it might be possible to reach the crest. This saddle was now our objective and a day and a half after leaving Snow Lake camp, Shipton and I with four Sherpas pitched our tents at the altitude of eighteen thousand feet below the pyramid peak. Facing us across an ice-filled cwm was a ridge of snow and ice which joined the watershed a short distance beyond the saddle. It appeared climbable but, before we had examined it fully, swirling clouds bore down upon us and snow fell heavily while we pitched our tents in the shelter of a rock outcrop.

Throughout the night the storm continued and at dawn the eighteen-inch walls of our tents were covered, though in our sheltered position we were snug enough. Intermittent flurries continued until evening and we remained in our tents. This
delay was fatal to our plans. We had hoped that, if the northern side of the pass was climbable, one of us with a couple of Sherpas would descend to Shimshal. Now time and supplies would be insufficient; the most we could hope for was to reach the saddle and return again to the Snow Lake.

After we had been inactive for nearly thirty-six hours the weather relented and we awoke to a frigid but windless dawn. The clouds had passed, promising a fine day; soon the primus was hissing to prepare our breakfast. I have described earlier in this book how in New Zealand we were able to start for our climbs within an hour of waking up. But here that was impossible, the cold discouraged activity before sunrise; and snow was slow to melt on the hesitant stove. Dawn, one of the high delights of my earlier climbing, received but a brief shivering greeting and the sun was already high above the peaks when Shipton, two Sherpas and I set out. Unfortunately we had no thermometer with us but the temperature was certainly considerably lower than we had experienced earlier in the season.

Across a gentle plateau the ridge whereby we hoped to reach the watershed soared upwards, clad in a sparkling mantle of new snow. Within an hour of leaving our tents we were zigzagging up the lower buttress of the ridge, making steady though rather laborious progress. Below us the Snow Lake fell away in an ever-widening vista.

We had brought the photo-theodolite to use upon the summit but as we climbed higher the new snow, into which we often sank deeply, increased our labour so much that we left the theodolite behind, relying on a Leica camera for our records. The climbing was not particularly difficult, though near the summit, caution was necessary on steep and exposed faces of snow overlying broken rock. My own chief recollection of the last hours of the ascent is of extreme fatigue, due primarily to the softness of the snow but emphasized by my imperfect condition and those over-heavy boots which I have already mentioned. I was grateful to Angtarkay who more than once half dragged me out of hollows. At last, towards five o'clock, over eight hours after leaving camp, we gained
the crest of the watershed at an altitude of approximately 19,500 feet. A quarter of a mile to the west beyond a small rocky tower was the lowest point of the saddle.

Six thousand feet below us lay the Snow Lake, a huge expanse of glistening ice. The long crevasse lines around its margin seemed frozen waves, and the mountains, islands in a frozen sea. Beyond, the spires and obelisks of the West Biafo Wall, and the icy summits of still more distant peaks were cast in bold relief by the low sun. Closer to us the ridge on which we stood threw out flying buttresses of rock, framing the scene, while on our right sweeping curves carried the eye to the summit of the pyramid peak.

Wide views have seldom the balanced grace of narrower valley scenes; but this panorama had foreground and distance, height and depth, balanced as perfectly as any artist could conceive. Nor did it lack clouds—the final glory of Nature's artistry, for in the western sky full-sailed galleons of cumulus rode in slow procession above the peaks.

Turning our backs on the Snow Lake we looked down to the Khurdopin glacier, a vista of pure white and blue. Fretted cornices and plumes decked the ridges, from which smooth snowfields fell in graceful curves to the glacier and then rose again to a triangular snow summit. Over all, the passing clouds cast ever-changing patterns of light and shade so that the broad, featureless snowfields were living, not lacking interest.

Every perfect thing awakes some echo of regret, and so it was that day. Clear before us lay a certain route down to the Khurdopin glacier—the route for which we had hoped but could not now follow. For us there was a different downhill journey. But our climb had not been without its value; we had determined the relation of the Khurdopin glacier to the Snow Lake—a valuable link between Visser's map and ours. Khurdopin Col, as we named the saddle, was the summit, not only in mere altitude, but in experience of our Karakoram travels; all that followed was to be one long descent. Interest and enjoyment the downward marches held; but as I look back it seems that a gate was then closed—the gate that
led to free planning of our lives, and the key to reopen it is still in an uncertain future.

Such, as nearly as I can describe it, is my memory of the greatest view that I have ever seen. But I would be false to experience were I to imply that I appreciated it fully at the time. A numbing wind cut through our windproofs, bodily fatigue was great, and the necessity of descending rapidly was urgent in our minds. These things were dominant—more real than my perception of the grandeur of the scene. That was a later growth. For the proper appreciation of beauty a considerable degree of comfort is essential. In its absence one may have an intense sense of exhilaration but it is an unresolved and incomplete feeling. Sometimes the climber is fortunate; as we were on the 19,400 feet peak above Hispar pass, and while the view was yet before us we had the leisure and physical ease to enjoy it fully. More frequently appreciation is delayed and for this reason a photographic memory is an important asset for the mountain climber. That view from Khurdopin Col has given me fuller enjoyment than any other—in memory it is more clear and enduring. But I know that, in the half-hour which we spent upon the col, I was more acutely conscious of the coldness of my camera, as I handled it, and of the difficulty in stilling my shivering body. Soon we were hurrying downwards to outrun the night. The long furrow of our tracks passed quickly beneath us and the half light brought us to our tents.

A day and a half remained before we could expect Fazal Ellahi at Snow Lake camp and we spent a sunny morning carrying the photo-theodolite two thousand feet up the slopes behind the camp to photograph and take angles to the ranges to the west. The ridge of yesterday rose in profile before us with the scar of our route clearly visible almost to the summit. Close at hand freakish crevasses made a fine foreground for the view. Facing us across the western arm of the Snow Lake was a scene of unusual beauty; a face of fluted ice, four or five thousand feet high like a great fan shell, seemingly transparent in the iridescent sunlight. On every ridge and crest the new snow glistened and azure blueness filled the hollows.
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Afternoon brought us back to the glacier, and in the evening we camped a couple of miles above our depot. Again night brought storm and, when we marched onwards, the snow-shrouded crevasses were particularly treacherous. It was now necessary to move cautiously, roped together, where a week ago we had strode confidently unroped.

Fazal Ellahi reached the depot an hour and a half after us, and for a while we sat on the rocks studying his plane-table sheets, which were now almost completed. His work showed the Biafo glacier to be larger than was previously believed; its névé system alone, Conway's Snow Lake, covered nearly two hundred square miles.

During the afternoon we climbed slowly back to our old camp below Hispar pass. The weather relented and sunset awoke that aching beauty in which we had first seen the Snow Lake. Pale pastel tints filled the basin below us, and after dark the 'Ogre' stood out, a frail outline against the moon. This was our last night on snow and the circumstances of our return gave it a greater sense of finality than the last camps of any of my previous travels. Sleep came to me slowly and lying in my sleeping-bag I cast my mind back through the years. It had been my good fortune to know widely varied types of mountains. The contrast of scenery had been fascinating, so also had been the human contrasts. In New Zealand mountaineering had still been at a comparatively early stage; in Switzerland and among the British hills it had attained its most specialized development; in the Himalaya a new era of exploration was still beginning. In each region the methods by which we approached the mountains had been different; but they were not unconnected. The essence of experience had always been the same. In our bodies we had known the forces which from the dawn of time had controlled the life and happiness of man; hunger and cold; heat and fatigue; storm and the fury of wind; danger and fear; friendship and beauty so pure that we could scarcely believe it real, and contentment which it seemed the earth shared with us. We had gained also some understanding of the configuration of the earth's surface, of the forces which had moulded it, and of the
way in which these things controlled man’s life and free movement. This is no profound knowledge and we gained it with no particular display of skill. But it added to the horizon of our minds, developing in some degree a geographical outlook, geographical not in the old-fashioned schoolroom sense but in its real meaning of pertaining to the earth’s surface and all that lives upon it. As a scientist I felt I had gained a particular benefit for I had been led away from those comfortable specialized grooves in which, at other times, it is so easy to confine one’s interests. Climatology, geology, the elementary economics of living had obtruded themselves into every investigation. These things had surely made us of better judgment, and saner, than otherwise we might have been, and humbler too, for conceits and ambitions tend to wilt in the shadow of great hills. All that was ending now. One part of my mind regretted it deeply but another relished the prospect of leaving the mountains; for the glacier felt cold and hard beneath my hip. Eventually I slept.

For one night we camped together after returning across the Hispar pass; then we separated to meet in Gilgit three weeks later. Shipton was to fill a few gaps in the Hispar survey while my own task was to clear the depot at Shenishish and then make all speed to Gilgit. While porters were being recruited, from Hispar village, to carry our scientific stores and other equipment, I was able to complete some of my plant experiments. After the Snow Lake, this camp, at 12,500 feet seemed warm, though at night my thermometer showed 22 degrees of frost (Fahrenheit).

Many bags of mail had been sent up from Nagir during our absence—letters, newspapers and magazines. Some were of recent date and I began to understand a little of the sequence of events in Europe. Every spare moment passed in reading them. At the bottom of one bag was a small but heavy parcel; it was covered with so many air-mail stamps that at first I did not notice my name on the label. I cut the packet open and to my horror there tumbled out a selection of boot nails. Then I remembered. . . . On the night before we made our first crossing of Hispar pass I had sent an order for an extra set
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of nails, as mine were wearing out more quickly than I had expected. They were to be sent by air mail, which then cost a penny-halfpenny an ounce; now the rate was increased more than tenfold, but so careful was the firm with whom I dealt that they had adhered to my instructions. I counted the nails one by one. They were worth more than half a crown each and a letter from my home told that the bill had already been paid. It did not console me in the least that I had contributed some three pounds sterling to the national exchequer.

During the past weeks few avalanches had fallen but the recent snowfalls had aroused them to a new activity. Almost every hour I heard the thunder of their passage; Makorum peak especially provided many fine displays. Near the summit of the mountain a small lip of ice would break off and gather speed and size until the face of the mountain for perhaps a quarter of a mile in width was swept with a white deluge of ice. I could see blocks the size of cottages tumbling down the face. Then, as the noise of the avalanche faded gradually away, the avalanche wind would strike our camp. We were three miles from the mountain and in a sheltered spot, yet on one occasion a primus stove which I had placed outside the tent was blown out and large snowflakes spattered the ground. But, by Himalayan standards, it had been quite a small avalanche.

Now that we were leaving the mountains the weather became settled; sunlit days were followed by starlit nights and when we marched to Nagir it was not once necessary to pitch tents.

At noon on September 27th the last march ended and I reached the Nagir rest-house. Once more the return to trees and fields delighted me and, while I waited for the precarious telephone to make connection with Gilgit, I watched the afternoon shadows lengthen on the Hispar peaks. At last—we had been trying for three hours—Gilgit answered. Captain Keith Battye, the Acting Political Agent, and I shouted at each other along a line which seemed to transmit also the roaring of the Hunza river and the sound of rock-falls in the hills—an exhausting conversation. We arranged that I should reach
Gilgit in two days' time. Nagir is sixty miles from Gilgit, and the road is divided into four stages but on horseback I should be able to cover it in two days. Being a poor horseman I expected little enjoyment on the road, and I doubted the wisdom of my plans when the horse provided for me nearly threw me as I tried it before dinner.

At 4 A.M. I left the rest-house. The moon had set and at first I could see nothing except the dim outline of my guide at the pony's head. When we had groped our way for three-quarters of an hour the first hint of dawn gleamed in the east and the call to prayer echoed out into the valley from a mosque hidden in the darkness above us. Over the river the white castle of the Mirs of Hunza stood clearly outlined on its hill-top, though all surrounding features were still indistinct dark shapes. Seven thousand feet above, a solitary snow summit was aglow in the first rays of day. Slowly the valley took form out of the darkness and I could see the road winding ahead. Thus we passed, without halting, from night to day in the great valley.

Soon I realized that even my meagre horsemanship could control my steed. Except for a rare hour when a mare was ahead of us on the road nothing would induce him to exceed a sedate walk. The wooden saddle on which I sat was beautiful to look at, covered in red leather and studded with shining brass, but it was so broad that after a few hours every muscle in my legs seemed to ache from the wide strained position. I tried riding side-saddle but the saddle then slipped, and I was grateful for the rougher portions of the road where I could walk.

Slowly the miles passed, but evening saw me in Nilt, and the following afternoon Gilgit took shape out of the shimmering heat haze. Fortunately all the officers of the station were playing polo and my limping arrival was unobserved. Captain Battye had invited me to stay with him and at his bungalow I soon cast my half-paralysed limbs into a long chair, and drank tea till I lost count of the cups. An hour later the marvel of a hot bath banished aches and tiredness for my reunion with civilized ways.
Gilgit was festive. Two days before Major Crichton, the new Political Agent, had arrived with his wife and daughters. In their honour the bazaar had been dressed with archways and garlands of coloured cloth and paper; the decorations were still hanging when I arrived. Between the piers of the suspension bridge over which the road from Hunza enters Gilgit a splendid banner proclaimed the word ‘Welcome’ in red and gold. Major Crichton had approached Gilgit from the other side, but obviously so fine a banner had to be hung somewhere. No doubt it gave great pleasure to the Gilgitis who placed it there in Major Crichton’s honour. Equally it gave pleasure to me—perhaps the only visitor able to read English who passed beneath it. The decoration of the bazaar was a spontaneous act, in no way officially encouraged. The gesture was an index of the popularity of Government; two days later the regret, approaching mourning, with which Captain Battye was farewelled bore similar testimony. A couple more days brought a third excitement, the arrival of the new Assistant Political Agent and his wife; that nice appreciation of rank which caste engenders dictated a less elaborate though most enthusiastic welcome.

Then there were other festivities; a garden party given by the Civil servants, dinner parties in various officers’ bungalows. For this gaiety my present garb, windproofs and a sweater, seemed rather inadequate, but in a remarkably short time the bazaar clothed me in shirt and trousers of muzrie cloth for a modest two and a half rupees.

After breakfast on my first morning in Gilgit I walked down to the post office feeling remarkably civilized and clean for I was washed, shaved, and my hair had just been cut. In the crowd at the delivery window was a bearded figure in a tattered pullover and stained windproofs, but just recognizable as Fountaine. He was not expected for several days but he had accomplished a surprisingly fast journey from the Chogo Lungma glacier across a new pass.

During the day the Political Agent despatched a message to
Delhi informing Government of our arrival, and our desire to be employed in any manner which authority might decide. This done we set up our establishment at the rest-house and waited. In a few days Mott came in and a week later Shipton completed our quartet. But from Delhi there was no word. We were rather surprised and hurt, having yet to realize that messages such as ours are filed for reference and not again referred to.

Autumn in Gilgit is a delightful season, sunny by day, just cold enough to give enjoyment to a fire at night. The days of waiting lengthened but it was easy to occupy ourselves developing films, sorting our notes and collections, shooting, playing tennis and through all enjoying the hospitality of that most hospitable of stations. October came nearly to its end, and winter snow was gathering on the southern passes. Soon the Gilgit Road would be closed for the year and still there was no word from Delhi. The Political Agent sent a second and then a third message. Like the first they were unanswered. We could not remain idle longer and, as Government took no interest in us, we of necessity decided our own fate.

Several considerations indicated that, for some of us at any rate, the most fruitful sphere of activity lay in Gilgit, or beyond. Events have since proved this true, but without instructions from Government it seemed impossible to remain there and so we all returned to India. Ignorantly we imagined that all the able-bodied men of the Empire would be at once required. We knew nothing of the labyrinthine complexity of red tape and reserved occupations. Had anyone told me that to return was a futile errand, I would not have believed him. Yet he would have been correct. In fact I would probably have been in the army a year earlier if we had remained in the Karakoram for the time we originally planned!

The day of our departure drew near. Gilgit gave us a gay round of parties and waved farewell as we rode towards Bunji. This ride was very different from my journey from Nagir. As a final kindly gesture the officers at Gilgit lent us good mounts and despite my ineptitude on horseback I enjoyed the day greatly. In early evening we reached the wide levelness of the Indus valley. Ahead towered the bulk of Nanga Parbat, with
the tints of sunset on its crest; our horses stretched their legs in a long rhythmic canter till darkness gathered about us. Then they moved more slowly, feeling their way. For an hour the night drew darker and then paled with the rising of the moon, and we rode on to the rest-house through the heavy moon shadows, with the great mountain in dim silver outline beyond.

For the next six days we continued southward by the normal stages, coming then to the last village below Burzil pass. Much snow lay on the ground and after long argument our transport contractor refused to cross the pass. We were due in Srinagar in three days, and so that some of us at any rate would keep our appointment Mott and I went on alone, leaving the rest of the party to relay the baggage across the pass if fresh transport could not be found.

It was late when we set out and night overtook us floundering through the snow drifts above Burzil village. But a gleam of light guided us downwards and two hours after sunset we reached the open door of a small stone hut, firelit from within. Our arrival at this hour and carrying our own loads caused great surprise. No one could do enough for us. A few yards only separated us from the dak bungalow and we had scarcely reached it before a fire was burning and fresh-cooked food was brought. While we ate, the lambadar, a kindly-looking old man, untied our sodden boots, stoked the fire to make it burn far into the night, and unpacked our bedding. We were so disarmed by the old man’s solicitude that when we left next morning we gave an unusually large tip and did not check his entry of our fees in the record book. Later we learned his duplicity; the book, unentered, was produced to Shipton and a double toll extracted. This fraud, a mere six rupees, annoyed me more than other greater losses because of our misplaced trust.

On the next afternoon we came through the snow-carpeted pine woods to the Tragbal dak bungalow. Before us the Vale of Kashmir was filled with smoke-blue light, through which the snow-streaked hills showed in uncertain outline. Closer the air was clear, and seven thousand feet below us each house and field of Bandipura was sharply outlined; along the roadway
the great chenar trees in their autumn glory were aglow in the last light of day.

Next morning we descended through the early sunlight to Bandipura whence a motor car carried us to Srinagar. Back once more at Forest Lodge we revelled for the next days in the luxury of good food, well-fitting clothes, and the cessation of bodily exertion.

Some travellers write disparagingly of their first return to civilization. This is I suspect a pose, like that other pose of preferring the life of a primitive people to one’s own. The actuality as I have experienced it is entirely different. The trappings of civilization, and above all the ending of physical exertion, are at first most enjoyable. More than that, I hanker for them during the last marches, and at first they equal my expectations. The trouble is that they tarnish so quickly. A few weeks and it seems that I have never been away. But there has been an interval during which I have no wish at all to be elsewhere than where I am. On my return from the Karakoram this feeling lasted nearly until I left Kashmir.

Only the departure of the Sherpas and, later, that of our kind hosts, marred the pleasure of those days. Smiling rather less spontaneously than usual, the Sherpas piled into the Rawalpindi bus and left us. It was sad to see them go.

For a month I remained in Srinagar, at first hoping for employment in the Indian Army, then, when hope died, waiting for a ship home. There was time now to watch the life of Kashmir—the weaving of the exquisite cashmere fabrics and the embroidering of shawls, at which a craftsman may work a year for the merest pittance. Then we drove out to the Saffron fields, acres of purple flowers with golden centres, through which the pickers moved in brilliant coloured clothes.

I went down to the old city of Srinagar to see the Tyndale-Biscoe School, and meet its founder, the silver-haired Canon Tyndale-Biscoe who for forty years has striven—and largely succeeded—in making Kashmiris into men. The canon’s son took me round the schools and I was, I believe, one of the first male visitors to the girls’ department, for purdah dies hard; but it was the cleanliness of the boys and their enthusiasm at
UNFINISHED JOURNEY

P.T. which most impressed me. Over lunch the canon told me some of his experiences, of the opposition at Home and in Kashmir that he had overcome, of the native teachers who taught that the sea was composed of ghee and sugar until he sent them to Karachi to taste it, of many other things which made my admiration grow.

Winter drew on; the flaming leaves of the chenar trees fluttered to the ground; frost touched the Vale at dawn; wisps of morning mist rose from the slow river; the haze of afternoon half veiled the circling hills. On our outward journey, despite the crowds of visitors and the close grip of summer heat, Kashmir had been beautiful; now in the silence of autumn, summer and visitors alike departed, it had an exquisite and more subtle charm.

At last the time came for me to leave and I booked a seat by bus over the Banihal pass to Jammu, there to catch the Lahore train. It was a journey of 180 miles over a pass nearly nine thousand feet in height. We would spend one night on the road. The bus owner guaranteed that I would be in Jammu at noon on the second day, but we left Srinagar four hours late, and I knew that only a miracle would get me to Jammu in time; no one with any knowledge of India would have hoped to do so. Time was no object to the other twenty-eight people on the bus; and the driver had friends in every village. Despite my protests the first day ended fifty miles short of our intended stopping-place. The driver said that we would leave again at 10 A.M. That was the end of my patience.

The local police inspector happened to be drinking coffee in a near-by shop. His friendship was easily purchased and he told the driver that he would be arrested—for what offence was not clear—if he did not leave at 4 A.M. The policeman, a bearded Muslim, and I ate together in the bazaar, and after an uncomfortable night with the vermin of the dak bungalow I rose at three o’clock. Half an hour later I found the bus and played a lovely tune on its klaxon horn, accompanied by perhaps a thousand pi-dogs, until at five o’clock we left.

The road wound through a fine country of forested hills but my eyes were on my watch and my energies devoted solely to preventing unnecessary halts. At two o’clock we came to the
outskirts of Jammu; I caught my train. Somewhere in the back of my mind was a rhyme about a ‘man who tried to hurry the East’ and came to an early grave.

On Jammu platform I bought a copy of the Civil and Military Gazette; for the first half-hour of the journey it held my attention. Then my eye strayed to the carriage window and I saw that we were crossing a level plain which stretched unbroken to the furthest distance. I hurried to the window on the opposite side of the carriage; there was the same flat landscape. During the past months mountains had been the background, conscious or unconscious, of my living. Now I had left them. The newspaper upon my knee, the first for seven months which bore the date on which I read it, lost its interest. I felt strangely lonely.

The train carried me onwards across the Punjab plain into the future, and the mountains sank below the horizon of my living. Distance heightened their perspective and I came in time to understand the pleasure they had given me more clearly than in the years of free experience.

The blurred first weeks of 1942 brought Singapore to its fall and us of its armies to the strange half-living of prisoners of war. For the body there was no escape, for the mind only that which each could make for himself. The present and the future were alike blank, but the past remained in memory and the mind turned to it, to the experiences one had enjoyed most. It clung to them, seeking some record more tangible than memory. To these circumstances my instinctive reaction was to write, and I began this book as soon as I could find paper—a thick pad of military forms, things beloved by military minds that clutter soldiers even in retreat.

Since my return from the Himalaya I had planned to set down my climbing experiences in some coherent form, but more immediate affairs had always intervened before I had written more than a few hundred words. Now a circumstance unfavourable for all else favoured this pursuit. . . .

CHANGI CAMP, SINGAPORE

1942-45

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Postscript

On the first day of October 1945 I crossed France in a flying-boat; it was the last stage of my journey back from the surroundings in which this book was written. The past weeks had been filled with such a rapid sequence of events that I was beginning to think I had no further capacity for excitement when the Rhône valley appeared below us and brought a sudden unanticipated pleasure. That toy landscape which seemed even neater and more orderly than on my journey to Zermatt eight years before was the first visible link with pre-war enjoyment. I looked towards the north-east not really expecting to see anything but just in case. Suddenly dim outlines crystallized out of the thin distant air; but it was some time before I could convince myself that I was really looking at the Alps.

Three weeks later I came to the summit of Pavey Arc above Langdale. The soft autumn landscape was filled with colour less vivid than that of the tropics yet of a richer fulness. I was alone. On my way up from the dale I had passed only two people and their enquiry—could you really see Blackpool Pier from here on a very clear day?—served only to increase my feeling of solitude. The rhythmic joy of walking uphill returned to me and all the little things I had once taken for granted. Putting on a sweater and a scarf was actively pleasurable and the clean cool air which made my pipe unbelievably good. But that was only the beginning. Two days later I tied myself to the rope of three generous acquaintances and spent the afternoon upon an easy crag. Unaccustomed muscles groaned but a great surge of half-remembered feeling came over me; things that I have attempted to describe and others that belong so much to the immediate act of climbing that they had faded in my absence from the hills. I had forgotten for instance the exhilarating sense, half fearful, half pleasurable, with which one approached the problems of a climb. I had remembered only the more lasting sensations.
Sometimes while I was writing this book I had been tempted to wonder if the experience was really as good as my recollection of it. Mountains were then all in the past tense; I felt it would be tempting providence to visualize a future. It was obvious that this was conducive to sentimentality and exaggeration. I had tried to avoid them, but my brief return to the hills has made me uncomfortably conscious of these shortcomings. It has, however, brought the compensating knowledge that the mountains hold future enjoyment at least equaling the past.

LANGDALE

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