

THE
HIMALAYAN
JOURNAL



VOLUME XXII, 1959-60

PRICE 14 RUPEES

THE HIMALAYAN JOURNAL is published on behalf of the Himalayan Club by the Oxford University Press. It may be obtained through any bookseller or by application to Oxford University Press, Amen House, Warwick Square, London, E.C. 4, to which all communications respecting subscriptions to the Journal or advertising should be addressed. Inquiries in India should be addressed to The Manager, Oxford University Press, Oxford House, Apollo Bunder, Post Box 31, Bombay, 1.

All Editorial Communications should be addressed to the Honorary Editor, c/o The Himalayan Club, Post Box No. 9049, Calcutta 16.

THE
HIMALAYAN
JOURNAL

RECORDS OF THE HIMALAYAN CLUB

EDITED BY

DR. K. BISWAS, M.A., D.Sc. (EDIN.),
F.R.S.E., F.N.I., F.A.S., F.B.S.

*'To encourage and assist Himalayan
travel and exploration, and to extend
knowledge of the Himalaya and adjoining
mountain ranges through science,
art, literature, and sport.'*

VOLUME XXII
1959-60

OXFORD UNIVERSITY PRESS
1959-60

THE HIMALAYAN CLUB

President :

LT.-GEN. SIR HAROLD WILLIAMS, K.B.E., C.B.

Vice-Presidents :

T. H. BRAHAM, ESQ.

F. C. BADHWAR, ESQ., O.B.E.

Honorary Secretary :

D. G. COWIE, ESQ.

Honorary Local Secretaries :

| | | |
|---------------|----|---------------------------|
| DELHI | .. | COL. MARK VALLADAVES |
| DARJEELING | .. | M. J. CHENEY, ESQ. |
| BOMBAY | .. | R. E. HAWKINS, ESQ. |
| KULU | .. | H. M. BANON, ESQ. |
| DEHRA DUN | .. | GURDIAL SINGH, ESQ. |
| PAKISTAN | .. | COL. E. GOODWIN |
| GREAT BRITAIN | .. | V. S. RISOE, ESQ., M.B.E. |

Honorary Editor :

DR. K. BISWAS, M.A., D.SC. (EDIN.), F.R.S.E., F.N.I., F.A.S., F.B.S.

Honorary Treasurer :

B. W. RITCHIE, ESQ.

Honorary Librarian :

R. LAWFORD, ESQ.

Honorary Equipment Officer :

M. HRUSKA, ESQ.

Committee :

| | |
|-------------------------|-----------------------------|
| DR. K. BISWAS | R. LAWFORD, ESQ. |
| C. E. J. CRAWFORD, ESQ. | K. PATTERSON, ESQ. |
| R. E. HAWKINS, ESQ. | GURDIAL SINGH, ESQ. |
| M. HRUSKA, ESQ. | BRIG. GYAN SINGH |
| A. KAUFFMAN, ESQ. | MAJ. E. J. SOMERSET, I.M.S. |

Additional Members of Balloting Committee :

J. T. M. GIBSON, ESQ.

J. N. MATHUR, ESQ.

A. R. LEYDEN, ESQ.

A. MADGAVKAR, ESQ.

CONTENTS

| | | |
|--------|---|-----|
| I. | EDITORIAL | 1 |
| II. | INDIANS ON MOUNT EVEREST, 1960. <i>By</i> Brig. Gyan Singh .. | 3 |
| III. | AMA DABLAM, 1959. <i>By</i> J. H. Emlyn Jones .. | 13 |
| IV. | ANNAPURNA II, 1960. <i>By</i> Lt.-Col. J. O. M. Roberts .. | 22 |
| V. | DHAULAGIRI, 1959. <i>By</i> Fritz Moravec .. | 31 |
| VI. | DHAULAGIRI, 1960. <i>By</i> Kurt Diemberger .. | 38 |
| VII. | THE ASCENT OF MASHERBRUM. <i>By</i> Thomas F. Hornbein, M.D. | 51 |
| VIII. | YUGOSLAV EXPEDITION TO TRISUL GROUP, 1960. <i>By</i> A. Kunaver | 70 |
| IX. | SIKKIM, 1960. <i>By</i> H. V. R. Iengar .. | 75 |
| X. | ACROSS THE INNER LINE. <i>By</i> Anne Davies .. | 84 |
| XI. | SURVEY OF KASHMIR AND JAMMU, 1855 TO 1865. <i>By</i> Col. R. H. Phillimore, C.I.E., D.S.O. .. | 95 |
| XII. | WANDERING IN THE HIMALAYAS. <i>By</i> Fukata Kyūya .. | 103 |
| XIII. | A SMALL EXPEDITION TO GANESH HIMAL. <i>By</i> P. J. Wallace .. | 113 |
| XIV. | NORTH-EAST OF POKHARA. <i>By</i> Gordon Jones .. | 118 |
| XV. | DISTEGHIL SAR, 1960. <i>By</i> Gunther Stärker .. | 120 |
| XVI. | THE ASCENT OF TRIVOR. <i>By</i> Wilfrid Noyce .. | 134 |
| XVII. | HIMALAYAN SCIENTIFIC AND MOUNTAINEERING EXPEDITION, 1960-61. PART I. <i>By</i> Norman Hardie .. | 141 |
| XVIII. | A HIGH WALK IN THE CENTRAL HIMALAYA. <i>By</i> A. D. Moddie .. | 146 |
| XIX. | ASCENT OF NOSHAQ. <i>By</i> Dr. Yajiro Sakato .. | 153 |
| XX. | OBITUARY: Ing. Piero Ghiglione .. | 158 |
| XXI. | REVIEWS: (1) Pilgrimage for Plants (Frank Kingdon-Ward). (2) Common Medicinal Plants of Darjeeling and Sikkim Himalaya (Dr. K. Biswas). (3) Flora of Afghanistan. (4) Lure of Everest (Brig. Gyan Singh). (5) No Purdah in Padam (Antonia Deacock). (6) The Last Blue Mountain (Ralph Barker). (7) Because It Is There (George Lowe). (8) The White Spider (H. Harrer) .. | 159 |
| XXII. | CLUB PROCEEDINGS AND NOTES ON EXPEDITIONS .. | 171 |
| XXIII. | JOURNALS RECEIVED .. | 178 |

LIST OF PLATES

| | |
|---|---------------------|
| Phurbi Chyachu from B.C. | <i>facing p.</i> 20 |
| 'Big White Peak' in Jugal-Himal | " 20 |
| Langtang-Himal from Ganja-La | " 20 |
| Dorje Lhakpa below Dorje Lhakpa glacier | " 21 |
| Langtang Lisung, the highest peak in Langtang-Himal | " 21 |
| A general view of the mountain showing route and camps | " 28 |
| View of mountain Base Camp | " 28 |
| View from the upper ridge | " 29 |
| Party of Sherpas just below the dome | " 29 |
| Dhaulagiri: north-east ridge, left skyline | " 36 |
| The 12,000 ft. high north face of Dhaulagiri | " 36 |
| Ernst Forrer in descent from summit | " 48 |
| May 13th, 1960, on summit of Dhaulagiri | " 48 |
| Dhaulagiri (26,975 ft.), the 'White Mountain' | " 48 |
| View from wide snow-saddle of north-east col | " 48 |
| Enormous view from Camp 6 (c. 25,600 ft.) towards Tibet | " 49 |
| The south-east face of Masherbrum | " 68 |
| Camp II, 19,500 ft. | " 68 |
| Willi Mosoeld at the bergschrund | " 68 |
| Willi Mosoeld on the summit ridge | " 69 |
| Our four Balti high altitude porters | " 69 |
| Camp IV as seen from above | " 69 |
| Trisul as seen from ridge above Camp III | " 72 |
| Base Camp | " 72 |
| Camp IV and Nanda Devi | " 73 |
| Upper Kali Ganga valley | " 73 |
| Porter Namgyal assists Antonia Deacock across a stream | " 92 |
| Eve Sims, Porter Namgyal and Antonia Deacock | " 92 |
| Women's Overland Himalayan expedition, 1958 | " 93 |
| Disteghil Sar, 25,868 ft., seen from Base Camp | " 132 |
| Makrong Chish (6,608 m.) above the Khiang glacier | " 133 |
| Kunyang Chish (7,850 m.) | " 133 |
| The two-mile ridge of Trivor | " 138 |
| Disteghil Sar from the north-west col of Trivor | " 139 |
| Piero Ghiglione | " 158 |

MAPS AND DIAGRAMS

| | |
|--|---------------------|
| Sketch map 1 | <i>p.</i> 39 |
| Sketch map 2 | " 43 |
| Sketch map of Trisul group | <i>facing p.</i> 72 |
| Route from Kathmandu to Kathmandu | <i>p.</i> 104 |
| Sketch map showing the position of the peaks and camps | " 137 |

EDITORIAL

ALL too frequently the *Journal's* Editorial begins with an apology for its late appearance and a promise to do better next time. On this occasion the real reason is too painful to confess and we shelter again behind the usual plea of pressure of work. Those who remember the halcyon years between two World Wars with their long week-ends and ample hot weather vacations and now find themselves in the age of Five-year Plans and rapid industrialization may be forgiven if they think the excuse a good one. With it we make our apologies and crave our members' indulgence.

An earlier Editorial expressed the fear that unless mountaineering was taken up seriously in India that particular number of the *Journal* might well be the last. This fear no longer exists. In the last few years there has been very marked enthusiasm for mountaineering in India and Pakistan and many successful expeditions, both national and international, have climbed in different parts of the Himalayas. Governments and various organizations have supported many of them and mountaineering is now well established in both countries. The Press devotes a good deal of attention to these expeditions, their progress and successes are front page news, and leaders are expected to provide exciting and colourful reports. We hope that members of these expeditions will also find time to send us articles and photographs which are of interest from the climber's point of view so that we may be in a position to contribute to one of the Club's main purposes—'to extend knowledge of the Himalaya and adjoining mountain ranges, their science, art, literature and sport'.

The Club owes a deep debt of gratitude to Mr. Trevor Braham who edited the previous two volumes. His departure from India last year was the kind of blow which hits the Club very hard and to which we have grown accustomed. He returned later to Pakistan and has given the present editor every possible help in preparing this volume.

Two other members deserve our special thanks—Mr. Charles Crawford, who for many years has played a very active part in every sphere of the Club's activities, and Mr. R. Lawford, who rendered much indispensable help in getting this volume ready.

Others, too, have helped and to them we offer our very sincere thanks.

Finally, the reader should know that Dr. K. Biswas, who took over

the editorship of this volume at a very critical moment, delegated the writing of this editorial, and the writer is accordingly in a position to make a reference to the part that he has played in its preparation. It is not easy to describe the relief which the Committee felt when Dr. K. Biswas agreed to become the editor or its gratitude when he was able to report that the volume was ready to go to press. We are most grateful to him for all that he has done in its preparation and we hope that he will continue for many years to be in a position to render this special service to the Club.

A handwritten signature in black ink, reading "G. Williams". The signature is written in a cursive style with a long, sweeping underline that extends to the left.

INDIANS ON MOUNT EVEREST, 1960

By BRIGADIER GYAN SINGH

IN the summer of 1959 the Himalayan Institute decided to organize an all-Indian expedition to Mount Everest. Although Indians had already previously scaled Cho Oyu and other great Himalayan summits, this was the first time that so ambitious a project had been contemplated by Indian climbers. The sport, however, has already grown out of its infancy among the people of the subcontinent: qualified leaders could certainly be found as well as a good number of experienced climbers to form a powerful team. Moreover, the objective was an appropriate one. Mount Everest is the highest mountain in the world and the culminating point of the earth's greatest continent. Although its summit lies in Nepal on the Tibetan frontier, it has long been considered, together with its glistening and towering satellites, as the natural apex of Indian topography, and the flanks of the great Himalayas have for centuries been a region of pilgrimage and worship for many hundreds of millions of devout Hindus.

The mountaineering history of Everest is well known and need not be recapitulated. European alpinists, drawn towards the mountain as by a magnet, made noble but futile attempts to reach its summit from the north side in the peaceful years between two world wars. At last in 1953, attacking from a new southern route through Nepal which had been pioneered first by the British explorer Eric Shipton and subsequently by two Swiss teams, Sir John Hunt's expedition succeeded where others had failed. On May 29, the New Zealander Sir Edmund Hillary accompanied by an Indian national, Tenzing Norkay, stood on the roof of the world. Three years later, a powerful but little-publicized Swiss expedition, excellently organized and quick to capitalize on favourable weather conditions, sent four additional men to the mountain's top. Still, the passage of time and repeated success have only modestly reduced the logistical and physical problems confronting the determined but rare groups of men who set out to attain so formidable an objective.

It was a great honour and, indeed, a pleasant surprise, when the Himalayan Institute entrusted me with the leadership of the projected 1960 expedition. It was an even greater challenge.

Once the decision had been taken, two immediate problems confronted the organizers: first, the selection of a team, and second

the procurement of equipment. In regard to the former, we held an advance Pre-Everest Course in the Kabru region during October and November, 1959, for tentative candidates under Tenzing's supervision. On the basis of his recommendation and mine, the Sponsoring Committee selected the final team. As things turned out there were more qualified candidates than places on the expedition, so that several worthy persons unfortunately had to be turned down.

In the end we selected thirteen men for the climbing group, all persons with considerable Himalayan climbing experience. First, there were the three Sherpa instructors from the Mountaineering Institute, Da Namgyal, Ang Temba and Gombu; then Captain Narinder Kumar of Kumaon Rifles, Sonam Gyatso (who scaled Cho Oyu in 1958), Keki Bunshah, Flight-Lieutenant Chaudhury, Rajendra Vikram Singh, B. D. Misra, C. P. Vohra, Captain Jungalwalla of Gorkha Rifles, U. M. S. Kohli, Indian Navy, K. F. Bunshah and I completed the team. There were, in addition, two physicians, Flight-Lieutenant N. S. Bhagwanani and Captain S. K. Das, a cameraman C. V. Gopal, a transport officer Flight-Lieutenant A. J. S. Grewal, a signal officer Lieutenant S. C. Nanda, a meteorologist K. U. Shankar Rao, and a secretary Sohan Singh.

The second problem was initially more serious than the first. Fortunately, K. F. Bunshah's efforts here proved invaluable. Difficulty in obtaining foreign exchange made it necessary for us to buy or manufacture most of our equipment in India—only special articles could be imported. In the past most climbing expeditions in the Himalayas, including Indian ones, have relied on European equipment. In this case we could not do so. Of course, the highly specialized oxygen equipment—similar to that used by the Swiss on Everest in 1956—had to be imported, but for the rest we relied mainly on the skills and ingenuity of our own countrymen. In most cases, the results were highly satisfactory: virtually all our equipment proved serviceable. This fact in itself is perhaps one of the expedition's major accomplishments, for it may now become possible for a Himalayan expedition to obtain reliable equipment and supplies in India, thereby reducing transportation costs and eliminating much red tape at ports of arrival.

To a large extent the ascent of a major Himalayan peak is a logistical problem whose solution must begin the day the project begins. If success is to be assured on Everest, a team of from ten to twelve climbers and about 40 Sherpas must first be transported with adequate supplies to the base of the mountain. To do this many of the resources of modern technology must be mobilized.

In our case, Indian firms such as Bata Shoe Company and the Bengal Waterproof Company as well as our Ordnance Factories co-operated magnificently. Sherpa and Nepali women worked long hours knitting excellent woollen wear. In far-away Switzerland the Swiss Foundation for Alpine Research enthusiastically supported us by taking care of our oxygen supply. For three long months the members of the team, assisted by many of our sponsors, worked like beavers collecting the 18 tons of materials and supplies which eventually poured into New Delhi's Central Vista Mess in mid-February, 1960. Five frantic days of sorting and re-packing followed during which it often seemed as though our quarters had been visited by a tornado. At last, on the morning of February 27, the final nails were driven and 500 inventoried porter loads were laid out neatly on the lawn, ready for shipment by truck to Lucknow on the first lap of our journey.

On March 4 the entire team—except one member who remained behind to take care of the oxygen equipment which was still to arrive in Bombay—arrived in Jayanagar, at the Nepali border, where most of the Sherpas were already waiting. The scene resembled an Indian fair, with nearly 700 porters and Sherpas and perhaps twice as many curious spectators. The help of Tenzing, who had accompanied the expedition this far, proved invaluable. He took over the task of registering porters, paying advances, allocating loads and distributing kits. So efficiently did he work that by sunset the task was completed.

We proceeded into Nepal in two parties of about 300 porters each, marching one day apart. For two weeks we wound our way through paddy fields, Terai jungles and over alpine meadows, where apricot and cherry blossoms and blooming rhododendron and magnolia gave proof that spring had now arrived. As we proceeded, local villagers brought eggs, milk and fruits, which they presented to us as a friendly gesture, expecting nothing in return. We crossed the Sun Kosi river on primitive ferry craft, although some members of the team swam across the obstacle.

On March 21 the long caravan arrived in Namche Bazar, a village of some one hundred houses, situated not far from Everest in the heart of Sherpa territory. This remote and sleepy settlement is an important staging area for all expeditions entering eastern Nepal. That night a heavy fall of snow—the first we had so far seen—blanketed the surrounding country.

Three days later we passed Thyangboche Monastery where the Incarnation Lama received us. A simple but solemn ceremony was

held and we were served Tibetan tea. Prayers were offered for the success and safety of the expedition.

The acclimatization training camp at Pangboche, 13,200 ft., was reached the same afternoon. From here it would be possible to become better acclimatized by scaling a few neighbouring peaks of from 17,000 to 19,000 ft. elevation. We could also now obtain excellent views of Everest, Nuptse, Ama Dablam and many other lofty summits.

For the next three weeks the expedition engaged in what was to be the acclimatization programme. This had been divided into two phases, the first of one week, during which all men were to climb to elevations of between 16,000 and 18,000 ft., gradually increasing their rucksack loads to 50 lb. and over, and familiarizing themselves with the oxygen equipment, with first-aid and with a number of special subjects which might present problems at a later date. During this period we were all under the careful watch of the expedition's physiologist, Captain Das. But at this time no one required much medical attention: we seemed to be in excellent health and were enormously enjoying the fine food with which the expedition had been provided.

During the second phase of the acclimatization programme, the climbing team was divided into three parties of four members, with ten high altitude Sherpas. Each party drew up its own plans, which were ready on March 30.

The first party, after climbing here and there up to elevations of 18,000 ft. slowly moved up in the direction of Base Camp at somewhat over this elevation. Its task was to pitch the first Base Camp tents and explore the route in the Khumbu icefall.

The second party with Da Namgyal, Kumar, Misra and Vohra went over to the Ama Dablam area and engaged in interesting rock scrambles. The men visited the site of the ill-fated 1959 British expedition to Ama Dablam. Some members even spotted fixed ropes high on the face of that great mountain. The party also climbed a relatively difficult summit, the 'Yellow Needle', on which the Swiss had practised in 1956.

The third group consisting of Gombu, Sonam Gyatso, Chaudhury, Rajendra Vikram Singh and the photographer camped on the southern slopes of Tawche. The party did useful training work on rock and ice faces for three days, then moved to the Chukhung Glacier, and then closed in on Base Camp around mid-April.

Meanwhile the oxygen equipment, which had finally arrived in India, was well on its way up the trail through the tangled jungle

of southern Nepal. Thus all forces could now rapidly converge on Base Camp. Our big job was about to begin. We had our equipment, we were in the best of health and morale, and we were ready to start towards our ultimate objective.

We had selected the route followed by earlier parties because it is the only feasible one under present-day conditions on the Nepalese side of the mountain. This route has been adequately described elsewhere. It presents three chief obstacles: first, the Khumbu icefall, an awe-inspiring mass of ice which cascades two thousand feet down a steep gradient and which is broken in its upper section by enormous crevasses. Because of the complicated structure of this labyrinth and the danger of ice avalanches, the Khumbu icefall is in many respects the most difficult section of the ascent. Yet in forthcoming weeks we were to find it necessary to transport nearly two tons of equipment through this maze. The second obstacle is the Lhotse face, a lengthy slope of steep ice and rock rising to 26,000 ft. from the Western Cwm at about 22,200, and up whose flanks steps must be cut and ropes fixed. Finally, there is the summit pyramid, where the effects of high altitude and weather are most pronounced.

When the various climbing teams converged on Base Camp on April 13, the advance party, consisting of Ang Temba, Keki Buntch, Kohli, Jungalwalla and Bhagwanani, was already hard at work on the icefall. Two days of inclement weather had at first hampered their operations. But on April 10 Kohli and five Sherpas established Camp I in a single day and spent the night there while others in their group consolidated the route. The next morning the same men reconnoitred the route towards Camp II, but had to return somewhat short of their goal.

Following a prearranged plan, this group now came down to Base Camp and below for a well-earned rest. The second team, consisting of Da Namgyal, Kumar, Vohra, Misra and me, took over from the advance party.

We spent the night of the 13th at Camp I, which had been pitched in an excellent location by Ang Temba and Kohli. Early next morning, after a hasty breakfast, we set out along the route reconnoitred by our predecessors. Their road-building ability commanded respect. The trail was well marked: over 200 multi-coloured silk flags showed the way. Rope and wire ladders led over vertical obstacles to higher ground; half a dozen wide crevasses we found bridged by heavy wooden logs while four still wider ones were spanned by aluminium ladders. On sixteen steep gradients fixed ropes assisted the climber.

Three hours after we started we reached the high point of the earlier party, an area where the Khumbu Glacier is compressed into a narrow gorge by the massive walls of Everest and Nuptse. Ahead of us, beyond several enormous crevasses, lay the Western Cwm and the Lhotse face.

At this point some of us stopped on an ice ridge while the others went ahead. I rested and contemplated the chaotic scene for some time. The hours passed. Around 3 o'clock Da Namgyal and the four Sherpas who had gone ahead returned to inform us modestly that Camp II had been established and that, with a little more work, we could start ferrying supplies through the icefall to an altitude of 20,000 ft. Thus the first obstacle had been overcome: we had found our way through the Khumbu icefall.

Progress continued, despite a few incidents. For instance, our Liaison Officer from the Government of Nepal, Dhanbir Rai, fell seriously ill. His life was probably saved by prompt administration of oxygen and medication by our physician Captain Das. Yet on we went, ever upward. One team supervised the movement of supplies to Camp II and used explosives to demolish two tottering seracs which endangered the route. Meanwhile, far ahead, Kumar and Da Namgyal worked their way in serpentine fashion through the crevasses of the Western Cwm. On April 16 they pitched a provisional Camp III (which was to become the advance base) at 21,200 ft., and pressed on to the foot of the Lhotse face, where Camp IV was to be established and whose site they reached the same afternoon. Then, wearied by their continuous labours, they handed over the reconnaissance task to the third team. Thus Gombu, Sonam, Chaudhury and Rajendra Vikram Singh took the vanguard while their predecessors came down to 14,000 ft. to recuperate.

We were now approaching the high-altitude zone where relentless high winds and the shortage of oxygen render progress agonizingly slow and where man's efficiency dwindles as his capacity to think and act rationally is reduced to a blur. On April 20, after establishing Camp IV, Sonam, Gombu and Chaudhury began the high altitude attack on the formidable Lhotse face.

Past expeditions had explored various routes from the Western Cwm to the South Col, but the most practical one for loaded Sherpas is the steep Lhotse Glacier with its series of terraces and almost vertical walls followed by a high traverse at 26,000 ft. northward to the South Col. The earlier parties under Sir John Hunt and Albert Egger had found long stretches of hard snow where steps could be kicked. Unfortunately for us, a mild winter

with little snowfall had left the face almost denuded of snow, with nothing but granite-hard ice in which steps had to be chopped almost all the way.

Our earlier rapid advance had also posed logistical problems, since our supply lines now stretched from Base Camp at 18,000 ft. through the intricate Khumbu icefall to Camp IV at 22,000 ft. and the intermediate camps still were not adequately stocked. Thus, while the advance party hacked its way up the steep slopes of the Lhotse Glacier, the rest of us down below busily and steadily ferried two tons of supplies to Camp III and managed somehow to send a small trickle of essential items to the forward team.

Lhotse face was a tough proposition. On April 20 Sonam and Gombu made good progress, nearly reaching the site of Camp V. In the process, however, they expended all their manila rope setting up fixed lines and much of their energy. Ang Temba, taking over from them, a day or two later made little headway in the icy cold winds of the Western Disturbances which had now set in, and suffered frostbite on his fingers. On the 28th, however, the indomitable Da Namgyal succeeded in pitching Camp V at about 24,000 ft. despite strong winds and a temperature of minus 22 degrees Centigrade. But the effort took its toll: both he and Kumar had to descend to Base Camp to recover from their ordeal.

A succession of climbers now took over the lead. Gombu managed to cross the Yellow Band and traverse to the Geneva Spur, thence upwards to about 25,000 ft. before returning exhausted. Vohra and Chaudhury pushed on behind as high as 25,500 ft. on May 6. Finally, on May 9, after spending a night each at Camps IV and V, Ang Temba and Jungalwalla with six Sherpas reached the inhospitable South Col after crossing the 26,000 ft. level. Here they left a tent, oxygen bottles and some stores. At the same time they recovered a diary belonging to Dr. Hans Grimm of the 1956 Swiss expedition. They returned to Camp V that evening and then descended to Base Camp the next day.

Despite some cases of illness and a few minor casualties such as frostbite, all hands now began to move up to the attack. Rajendra Vikram Singh was in Camp III checking the oxygen equipment for the final assault. Lieutenant Nanda was busily at work setting up telephonic communication by cable as far as the Western Cwm, perhaps the highest telephone link ever established.

As might have been expected, we all wanted to begin the final and crucial phase of our task immediately, but again weather conditions frustrated our hopes. Cold and high winds on the Lhotse face prevented us from pushing more than two small ferries of

four strong and determined Sherpas to the South Col even as late as May 13. On the 14th the weather deteriorated and it began to snow intermittently. We were forced to withdraw to the lower camps, where we grudgingly spent our time consolidating our position. It was at this juncture that I unfortunately fell ill with a high temperature in Camp III and had to descend to Base Camp in a weakened condition. I managed, however, to hold a final conference with my companions before departing and to select two summit teams.

In so doing I was reluctantly obliged to omit two of our best men. Da Namgyal's participation was precluded by illness and another candidate, Captain Jungalwalla, now had to take over my duties owing to my incapacitation. As a result, I decided that the first summit team would consist of Nawang Gombu, Sonam Gyatso and Captain Narinder Kumar. The second party was to include Ang Temba, Lieutenant M. S. Kohli of the Indian Navy and C. P. Vohra of the Geological Survey of India. These climbers had all done well on the mountain and possessed the experience, endurance and determination to tackle the great final job.

The weather finally cleared on May 20. We wondered: Had the pre-monsoon lull arrived? The radio already had stated that the monsoon was still far south, slowly moving northward over the Andaman Islands. Barring some mischance, it was not likely to hit the Everest region until June 2 or thereafter.

Still, we had no time to lose. Unfortunately, avalanche danger on the Lhotse face made it unwise to send men up on the 20th or 21st. On May 22 the first team set out from Camp III and, in order to save time, pushed directly to Camp V, where its members spent the night. By evening of the 23rd these men, accompanied by Captain Jungalwalla were firmly entrenched at the South Col.

May 24 was a day of perfect calm. Gombu, Gyatso and Captain Kumar with seven Sherpas started out for Camp VII in high spirits, carrying tent, gas, fuel, food, sleeping bags, air mattresses and the indispensable yellow oxygen bottles. The party, using oxygen, made good progress and set up the final Camp VII at 27,600 ft. Here, while the Sherpas trudged slowly back to the South Col, the climbers settled down for the night.

Despite the altitude, the three ate with good appetite that evening and then crawled, fully clothed, into their sleeping bags in the somewhat cramped quarters of a tent which was normally intended for only two persons. Excitement and the high altitude prevented sound sleep. At 4 o'clock the three awoke, slowly crawled out of their bags and prepared to start.

Luck, unfortunately, was no longer with them. The calm air of the previous afternoon had given way to a strong and steady wind which whipped the little tent. The men waited, hoping the wind might abate. When by 7 o'clock there was still no decrease in its speed, they decided to start anyway.

Though the wind was not unbearable, blowing snow from the outset restricted vision. The men moved slowly, haltingly, up the south-east ridge, keeping slightly below the crest. Soon, frost blocked the valves of Kumar's oxygen mask. He rapidly switched to a spare mask and bladder, but the incident was an ominous portent of what might happen later when the climbers would be obliged to expose themselves on the ridge to the full fury of the gale.

That moment soon arrived, and all at once conditions became almost unbearable. Blowing snow whipped the men's faces with such force that they had to turn sideways to advance at all. Twice the party halted while Sonam rectified the frozen valves of his face mask. As they advanced, the wind increased, whipping powdered snow on to faces and goggles and reducing visibility to almost nothing.

At about 28,300 ft. the three halted. They were within 700 ft. of the South Summit. Under only slightly better conditions they might have pressed on. The temptation to continue was strong, but the possibility of doing so remote. Besides, Kumar, Gyatso and Gomba were alpinists who realized that, unlike a military operation, lives cannot be risked unduly on a sporting adventure no matter how worthy the goal. After a brief consultation they decided unanimously to retrace their steps.

This was the high point of the expedition. Twenty-four hours later the monsoon broke in the Everest region, a week earlier than anticipated. The second team, which had meanwhile moved to the South Col, waited vainly through part of May 26 for the weather to clear, while the first team descended to the advance base.

Under existing conditions further efforts would be useless. Despite dogged determination, the supreme effort had failed through no fault of our own. By May 29 everyone was back in Base Camp. God had willed that we should not climb Everest that year.

If we were disappointed, we had also reason to be proud. Mountaineering is, for Indians, a relatively new sport. Yet we had been fit, and I think properly so, to challenge the world's loftiest summit. We had organized and conducted a major expedition, solved seemingly impossible logistical problems, reached a point,

only a few hundred feet below the crest of Mount Everest, and, most important, had all returned safely. India had shown herself capable of manufacturing and supplying intricate and serviceable items of equipment comparable in quality with those available in parts of the world which have a far older mountaineering tradition.

Not the least of our achievements was the stimulus to mountain climbing in India provided by the publicity which accompanied our efforts. More and more the Indian young men and women will now go out and seek vigour, health and happiness which only a sojourn to the high snowy mountain regions can provide. Everest is always there, waiting for our successors. These will come and standing on our shoulders, will some day succeed where we so narrowly failed.

AMA DABLAM, 1959

By J. H. EMLYN JONES

We express our thanks to the Editor of THE ALPINE JOURNAL for permission to reproduce this article.

OUR attempt on Ama Dablam in the spring of this year ended in tragedy and for those of us who took part in the expedition the memory of the climb is clouded by the death of two of our number who lost their lives near the summit of the mountain. Nevertheless, in a report to this Club we think there are certain positive achievements to record and I hope that these will become apparent as the story unfolds.

The striking view of Ama Dablam from the south-west is well known to all readers of Sir John Hunt's account of the successful ascent of Everest in 1953. The mountain was first suggested to me as a feasible climbing proposition by Dr. Charles Evans, who himself had looked at the south-east ridge of the mountain from the vicinity of the Mera Col. In the only available photograph taken from that quarter¹ the upper part of the mountain is obscured by cloud and the lower part barred by a steep step of about 500 ft. Ama Dablam is, of course, a most impressive mountain when viewed from any quarter. It rises to a height of 22,494 ft. a few miles south of Everest on the south or left bank of the Imju Glacier and separated from Everest itself by the vast wall of the Lhotse-Nuptse ridge. It has four main ridges, one of which, the western ridge, rises over a small unnamed satellite peak standing above the village of Pangboche. At the foot of the north ridge which drops very steeply for the last 1,000 ft. is a small col and to the north a striking little rock peak, Ambu Gyabjen (c. 16,250 ft.), which was ascended for the first time on April 12th, 1953, by Sir John Hunt and the late T. D. Bourdillon.

An examination of further photographs, particularly some provided by Sir John Hunt, taken during the second acclimatization period in 1953, and by John Jackson, who had spent some months in the area in 1954, showed that the north ridge and the south-west ridge though steep did not look so impossible as the other two ridges. In particular, the north ridge levelled out towards the summit and the last 1,000 ft. of ascent appeared to be at an appreciably easier angle. Working out a possible route

¹ See 'The Ascent of Everest', page 140.

from photographs became increasingly interesting, and I finally came to the conclusion that a spur which rose from the north-east to join the shoulder of the north ridge above the steep drop to the North Col offered the most likely way to the summit.

Our preparations took shape during the latter half of 1958. Permission was obtained from the Nepalese Government and at the same time I learned that Alfred Gregory was himself taking a party to the mountain in the autumn of that year with a view to exploring the south-west ridge.² We called our expedition the British Sola Khumbu Expedition, and we had in mind that if this autumn attempt were to be successful we would then turn our attention to some of the other magnificent mountains in the Sola Khumbu region.

The party finally consisted of six members from the United Kingdom. G. J. Fraser and E. A. Wrangham, both members of the Alpine Club, had been on the Cambridge University Mountaineering Club Expedition to Rakaposhi in 1954 and had considerable experience of climbing in Britain and in the Alps. M. J. Harris was one of the leading mountaineers of his generation and had been a member of the British party which climbed in the Caucasus in 1956, where, with G. C. Band, he had completed the first ascent of the south-east buttress of Dych Tau and the third ascent of the north buttress of Shkara. Mike was not a member of the Alpine Club, but in fact we completed his application form at Base Camp and sent it back by runner. His candidature was passed by the Committee, but news of his death was received before he was actually elected. Dr. Frederic Jackson, also a member of the Alpine Club, was a cardiologist, and it was hoped that in addition to his role as a member of the climbing party he would be able to carry out some cardiological research both on members of the expedition and on members of the Sherpa community. A Transrite battery-operated cardiograph was lent to the expedition by the Cambridge Instrument Company and although this instrument had subsequently to be abandoned at Camp II on the mountain, a large number of electro-cardiograms were taken and it is hoped that the results have added something to the knowledge of heart disease. Mrs. Nea Morin, an ex-President of the Ladies' Alpine Club and of the Pinnacle Club, had extensive experience in the Alps extending over 20 years or more, but this was her first

² Mr. Gregory's party reached a height of about 20,000 ft. on the mountain but were turned back by difficult climbing and by the low temperatures with which the mountaineer has to contend during the autumn.

visit to the Himalayas. I had previously been to Nepal with H. W. Tilman and his party in 1950 when we had explored the approaches to Annapurna II and IV.

The Mount Everest Foundation provided us with a handsome grant and we also received financial assistance on a generous scale from the Medical Research Council and the Newcastle Regional Hospital Board. It is true to say that without this assistance the expedition would not have been possible.

The party assembled in Kathmandu on March 25th, 1959. Jackson and I flew to Bombay and accompanied the stores overland and the other members of the party flew direct to Kathmandu. There we picked up our four Sherpas, Dawa Tensing, Urkien, Annullu and Pemba Tensing, all experienced men whose names are now well known. We also engaged three Sherpa orderlies, Nima Dorje, Pineri and Pasang Chitar. These were young Sherpas with limited expedition experience, but they proved extremely useful to us and the two first-named stayed with us throughout the expedition.

At Kathmandu we also met the Liaison Officer provided for us by the Nepalese Foreign Office. He was Lieut. Ondal Shumshere J. B. Dana, a young Regular Army Officer, who proved to be extremely useful and reliable and a great help to the expedition throughout. Our coolies, 72 in all, were recruited through the Himalayan Society which had recently been set up in Nepal, and on Easter Sunday, March 29th, the party set out. We were accompanied as far as Bhadgaon by Lt.-Col. J. O. M. Roberts, Military Attaché at the British Embassy, whose assistance had been invaluable to us throughout the planning of the expedition and also in Kathmandu itself, where he had made many of the necessary administrative arrangements before our arrival.

Our march followed the route taken by earlier parties to the Everest region and as we travelled eastwards across the grain of the country our mountain legs grew stronger as the ridges grew steeper. From time to time the snows of the main Himalayan range appeared on our left hand and we were able to make out the outlines of mountains hitherto known to us only by name, amongst them Gauri Sankar, Numbur and Karyolang.

We crossed the Dudh Kosi on Friday, April 10th, by means of the temporary winter bridge which is washed away each year with the coming of the monsoon, and turned northwards towards Namche Bazar, which we reached on the 13th. A little further on, below the village of Kumjung, we halted for a day, paid off our Kathmandu coolies and engaged local Sherpas for the remaining

carry to Base Camp, which we hoped to set up at the foot of the north-east spur of Ama Dablam.

The party was in good form and had been going well, although Mrs. Morin had had trouble with a knee which she had sprained shortly before leaving England. It had stood up to the journey well and in fact had been largely cured by the sixteen-day march across country. For the first time the party was surrounded by the high peaks of the Himalayas with Ama Dablam forming the centre-piece above a nearer ridge upon which the outline of the Thyangboche Monastery could be made out. A short day on the 15th took us to the Monastery, where we were entertained by the Head Lama and also by the Head Lama of the Rongbuk Monastery who had crossed with his family from Tibet over the Nangpa La a few days before. It was here that we learned vague rumours of trouble in Tibet, but although we were at this point a few miles from the frontier there was very little precise information. Dr. Jackson and Mrs. Morin had stayed behind at Kumjung to carry out part of the medical research programme, but the rest of the party pushed on, and on April 17th found an ideal site for our Base Camp immediately at the foot of the north-east spur at a height of about 16,500 ft. We were exactly on schedule and the morale of the party was high. We were ten minutes from the foot of our spur on a little alp immediately under the foot of Ama Dablam and surrounded on two other sides by ice peaks encircling the head of a side valley leading down to the main Imja Glacier. Across the glacier rose the great wall of the Lhotse-Nuptse ridge and over the top stood the summit pyramid of Everest.

Some members of the party suffered from altitude headache and after a few days Fraser and Wrangham descended to the main Imja valley where they spent three nights at that lower level. During this period, Harris and I with Dawa Tensing completed the ascent of Ambu Gyabjen where we found the small summit cairn erected by Hunt and Bourdillon six years before. From the summit ridge we got excellent views of the north ridge of Ama Dablam, and although no insuperable obstacles appeared it was obvious that it would not be possible to test the route without, in Dr. Longstaff's words, rubbing our noses on it. On the 24th April Harris and I carried out a first reconnaissance of the lower part of the north-east spur and succeeded without much difficulty in arriving at a prominent notch about one-third of the way up the ridge. The rest of the party arrived that day at Base Camp and were encouraged to see the two of us appearing a thousand feet or so up the mountain.

From the first notch the general line of the route seemed to be clear. The first problem was a steep four-hundred-foot rock buttress consisting in its lower section of overlapping slabs which provided a series of small overhangs. Above the buttress a second notch appeared to offer a possible camp site. There followed a short broken section and then a steep corner of light grey rock which we called the Grey Corner, and above this point it appeared possible to keep just to the left of the edge of the spur branching left at the top and up a snow couloir to the shoulder of the north ridge. At this point the ridge turned left-handed and continued over two rock towers about four hundred feet high and then steeply up a narrow rock ridge to an upper shoulder crowned by a prominent cap of ice.

The next section consisted of a long castellated ice ridge bearing left-handed which at its far end abutted against the snow or ice slopes of the summit cone. The route thus followed throughout its length the crest of the ridge or just below it and would therefore remain free from avalanche danger, at any rate until the summit slopes were reached. Our subsequent experience proved that the lower two-thirds of the route which consisted almost entirely of rock climbing was remarkably safe from objective danger, apart from two sections where the rock itself was loose and there was a certain amount of stone-fall caused by members of the party in their own movement.

The rock buttress above the first notch was first turned by Harris and Fraser by a route on loose rock and snow to the right of the crest. This section was probably as difficult as anything on the mountain and its completion represented an outstanding feat. Having reached the top of the buttress they were able to abseil down its entire length, finding a convenient perch on the crest of the ridge providing a good stance and belay at the half-way point. We subsequently fixed ropes on this section, and on the steeper section above the lower slabs installed a sixty-foot rope-ladder which proved invaluable in getting the loads up. Owing to the numerous overhangs it was virtually impossible to haul loads over this section and they were all carried on the back as far as the perch. For the second half of this section an aerial ropeway was erected up which the loads were hauled through space to the second notch where platforms for three tents were constructed amongst the boulders. Here we established Camp I at a height of about 17,850 ft. Harris and Fraser had previously found a route up the Grey Corner beyond, and on May 1st Fraser and I occupied Camp I. The following day we pushed on up the ridge, climbing the Grey Corner and

reaching a point just below the shoulder from which we could satisfy ourselves as to the feasibility of the route beyond. During the next few days the build-up of stores to Camp I continued, in which heroic work was done by Jackson, Wrangham and Mrs. Morin and the three Sherpas, Annullu, Urkien and Pemba Tensing. Camp II on the shoulder was occupied on May 5th by Harris and Fraser, a small platform being cut out of the ice, level with the lip of the rock ridge underneath, at approximately 19,200 ft. On the 7th May, Harris and Fraser made their way upwards along the ridge, finally by-passing the two rock towers on the left and setting up Camp III on an ice platform sticking out at the side of the ridge at the foot of the 45-degree section (height approximately 19,850 ft.).

A feature of the route was the almost complete absence of potential camp sites. At virtually no point on the mountain, certainly up to 21,000 ft., was there a level section capable of accommodating a single tent, and when camp sites were with some difficulty prepared it was never possible to move more than a yard or two without being properly safeguarded. Camp III was in a fantastic situation. From it one looked up at the 45-degree rock ridge which was bounded on its right by the vast upper precipice of the north face of the mountain which appears to be practically vertical. By standing alongside the tent it was possible to look over the ice crest and straight down to the fields around Dingboche.

On Friday, May 8th, whilst Camp II was being consolidated. Harris and Fraser pushed on to a point near the top of the 45-degree ridge, but as Fraser was not feeling too well they decided to return and on the following day came all the way down to Base Camp, bringing down with them the support party at Camp II.

This halt in our advance was timely as the weather remained unsettled for the following few days and our doctor examined Fraser and diagnosed a bronchial infection.

I should, perhaps, mention at this stage that although we did not intend to use oxygen on the mountain, we had some light-weight Normalair cylinders with us at Base Camp for medical use. In fact they were not required as Fraser's complaint responded to treatment and he was passed quite fit again after four days.

On Wednesday, May 13th, Harris, Wrangham, Urkien and Annullu started again up the mountain and were followed by Fraser. Jackson, Pemba Tensing and myself two days later. On Sunday, May 17th, Wrangham and Harris were at Camp III and the rest of us at Camp II. Here electro-cardiograms were taken of the whole party, but unfortunately some irregularity appeared in the case of

the Doctor and although he had no symptoms he was obviously worried about the cause. Whilst Fraser and the Sherpas went on to Camp III, I stayed another day at Camp II, but as Jackson's heart was still not normal on the following day I decided that he ought really to descend.

He went down to Base Camp with Pemba on the 18th and on that day, with Annullu, I rejoined Wrangham and Urkien at Camp III. Harris and Fraser had left that morning carrying a light-weight assault tent with a view to setting up a further camp at the top of the 45-degree slope, or beyond if they could make it. On an earlier reconnaissance they had found a possible platform near the top of the ridge, but they hoped it might be possible to go further and to find a suitable site on the far side of the castellated ice ridge beyond. From that point, at a height of about 21,000 ft., they hoped that they might be able to climb the remaining 1,500 ft. to the summit in one day or, if not, to prepare the route on one day, return to camp for the night and continue the ascent on the following day. The weather had been set fair for some days and they had taken with them food sufficient for six days. The final decision as to whether to go on or not was, of course, to be taken by them on the spot and in the light of the difficulties remaining, but they were both extremely experienced and seasoned mountaineers and could be relied on not to push their assault beyond the limits of prudence.

In the event, they pitched Camp IV below the top of the 45-degree slope and we saw them the following day crossing over on to the ice ridge where they disappeared on the far side at about 11.30 a.m. They appeared to be taking their tent on with them and in fact established Camp V some way along the far side of the ice ridge.

At 2.30 p.m. on the afternoon of the 20th May we saw them cutting steps over what appeared to be a final ice tower on the far end of the ice ridge, giving access to the summit slopes of the mountain. At this point we estimate that their height was about 21,500 ft. They would thus have less than a thousand feet to go to the summit and at first we thought that they might go on that day. In fact, they reappeared within a few minutes and re-descended to Camp V.

This incident is not without significance in view of what happened later. If the going had been straightforward from the point at which they turned back, they might well have thought it wise to return to camp and make an early start on the morrow. Alternatively, they might have considered the way impossible and given up the attempt. But if the next section had required further preparation

there would, in fact, have been plenty of time for them to put in an hour or so's work that afternoon.

It was therefore with considerable excitement that we saw them again the following morning, May 1st, at 8.30 a.m. reaching the top of the same ice tower. From our position at Camp III it seemed as though by working their way out of sight to the right they would soon set foot on the easier, more rounded, summit slopes and we began to think that the mountain would be climbed. About mid-day the summit clouded over and we had no further sight of them. We had half expected some shouts from them on the way down, but only sensed a slight feeling of uneasiness when we heard or saw nothing more of them that day.

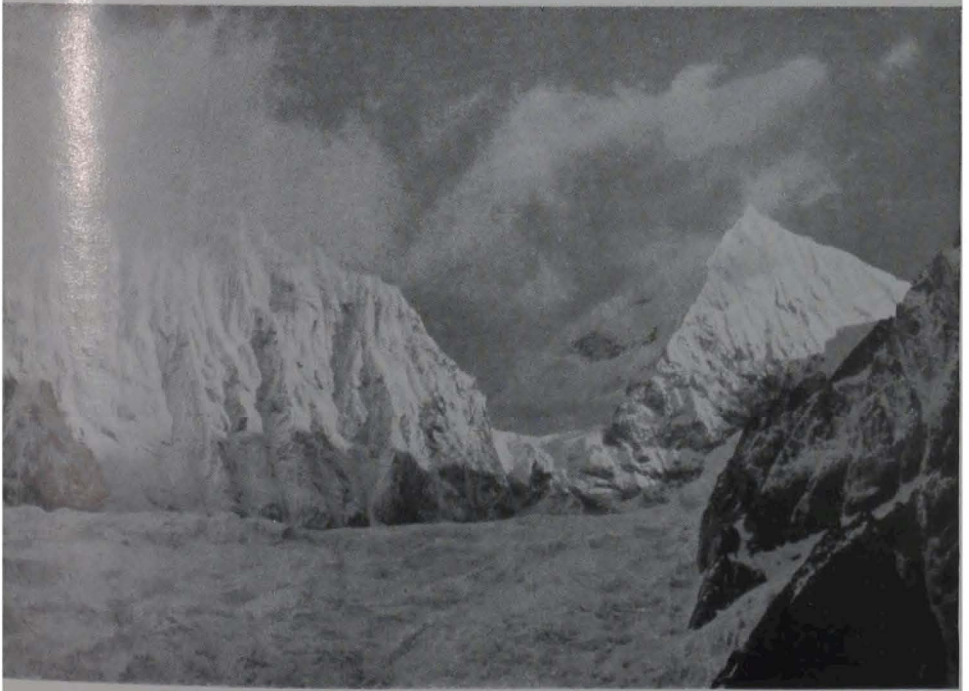
During the course of the following day our uneasiness gradually turned to despair. From the elation of a probable victory our spirits progressively sank until by the evening we knew that an accident had occurred. Mike Harris and George Fraser never reappeared and we shall probably never know whether, in fact, they reached the summit of Ama Dablam. I do not think that they were beaten by sheer technical difficulty. Perhaps an avalanche or a slip, more probable on the descent, carried them away at a moment when the summit cloud had limited their visibility and hidden from them the safest route down. From the point where the accident occurred they must have fallen down into the north-west cwm of the mountain, as we scoured the nearer, north-eastern slopes of the summit with glasses and found no sign of them.

In order to institute a search party it would be necessary to descend the mountain and pass round the foot of Ambu Gyabjen to get up into the north-west cwm. The following day the weather broke and as the four of us turned to descend from Camp III we ran into a raging blizzard. The descent of six hundred feet to Camp II took us the whole day and I was in an extremely weak condition when we finally reached Camp II. My fingers and toes were completely numb and my fingertips were slightly frostbitten. Wingham and the Sherpas were magnificent, climbing steadily and surely in these appalling conditions, and Urkien produced mugs of tea within a few minutes of our arrival at the camp.

The storm raged throughout the following day and we were unable to leave our tents. We now know that this was the beginning of the monsoon and except for two or three short intervals Ama Dablam remained in storm during the rest of our stay. On the 25th May the day started with sun and we continued the descent. The sky clouded over almost immediately, but we eventually got down to Camp I and found the rest of the party waiting for us at the

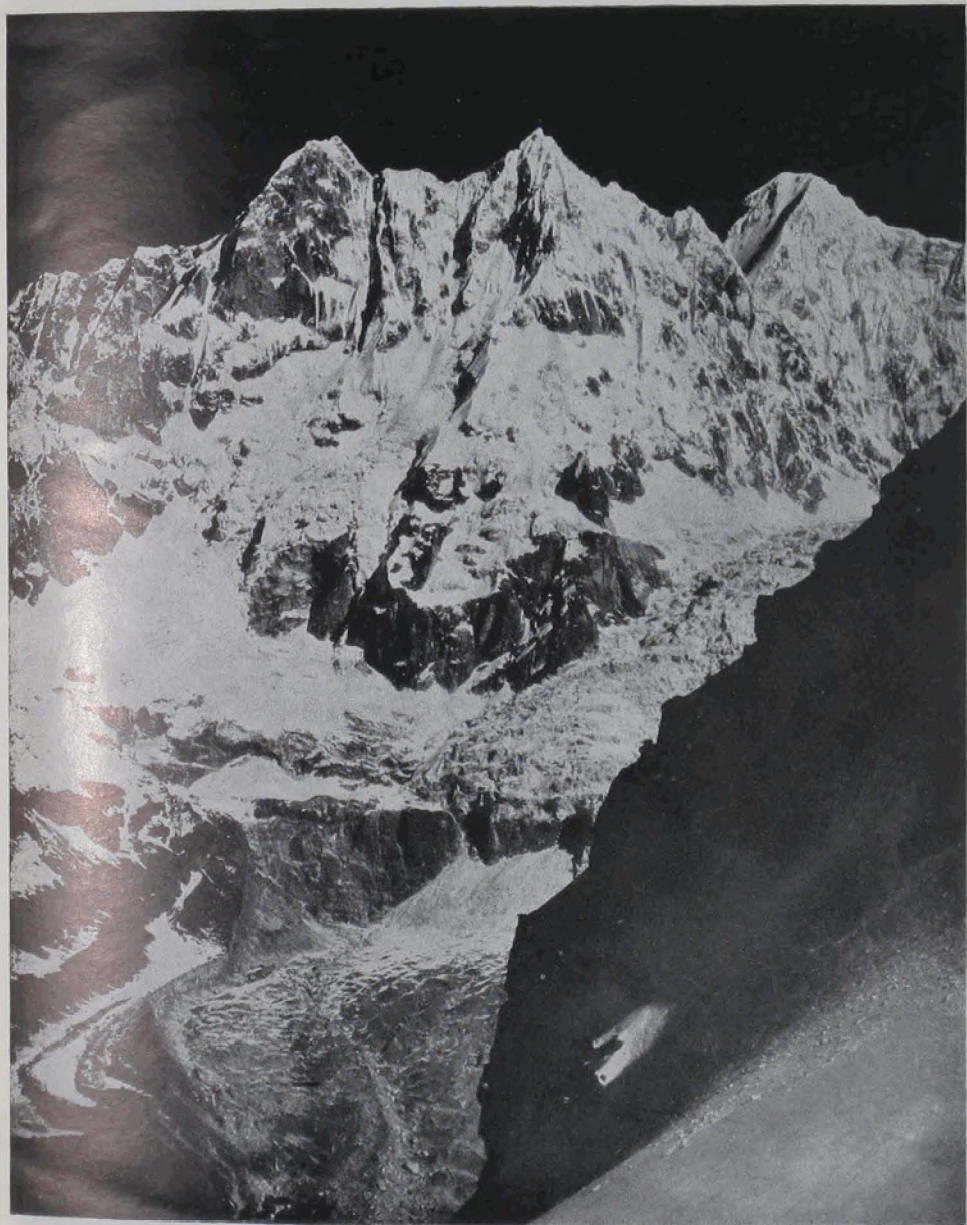


PHURBI CHYACHU FROM B.C.

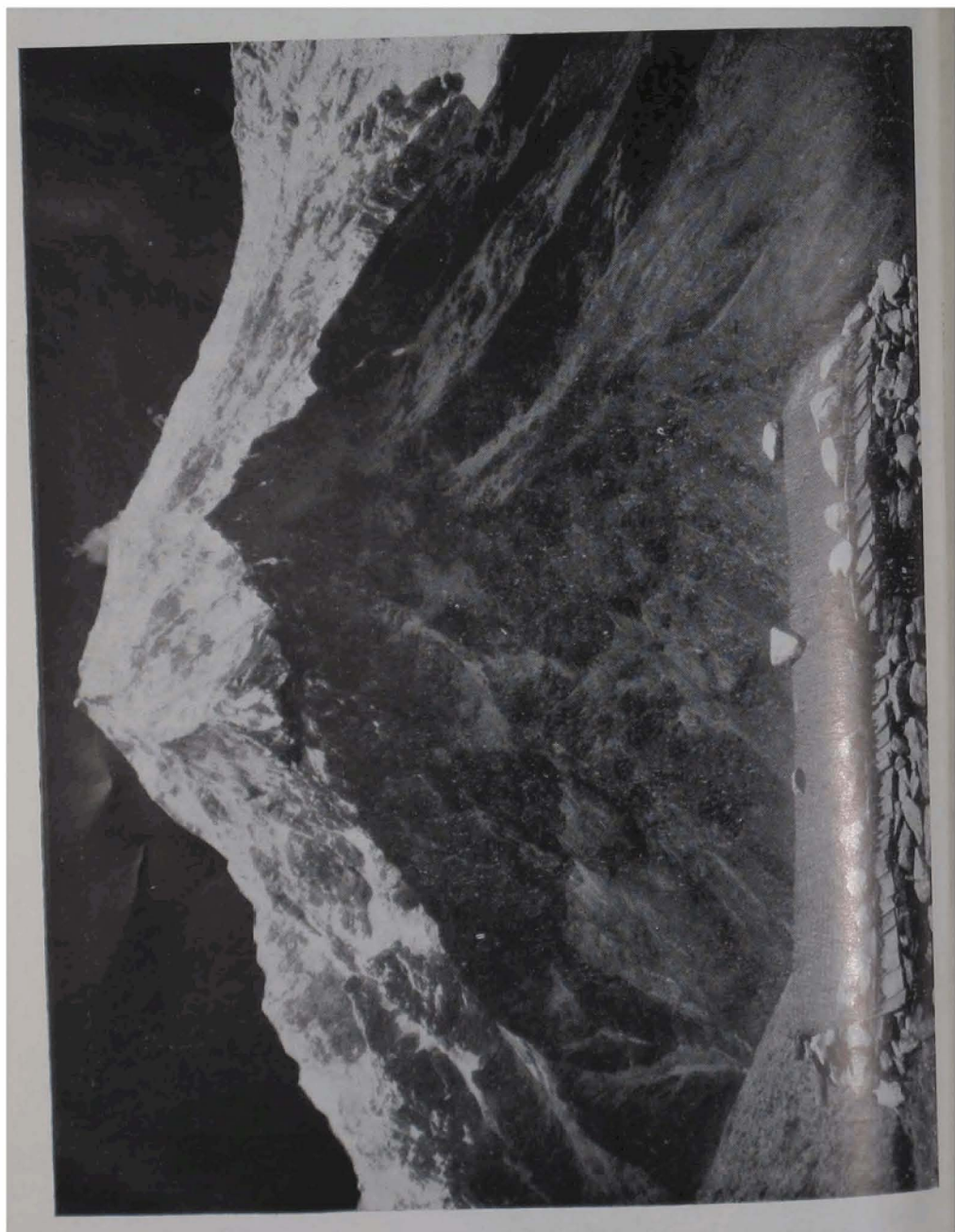


'BIG WHITE PEAK' IN JUGAL-HIMAL : BELOW DORJE LHAKPA GLACIER





DORJE LHAKPA : BELOW DORJE LHAKPA GLACIER



notch below the camp. We finally reached Base Camp at about 7.0 p.m. in a more or less exhausted condition.

The weather continued bad and Base Camp was almost permanently under snow. Occasional glimpses of the mountain showed that our ridge was plastered with ice and it was with some difficulty that we evacuated the stores from Camp I. Camp II had to be abandoned and with it the electro-cardiograph. The morning of May 30th dawned fine and Wrangham and Mrs. Morin set off soon after 5 o'clock in order to carry out a search in the north-west cwm. After rounding Ambu Gyabjen to the north they had views for a short time of the summit of the mountain from that side, but the weather again clouded over and although they made their way up into the cwm to over 17,000 ft. they saw no trace of the accident.

We erected a cairn at Base Camp to the memory of Mike and George and started for home without any further evidence to enable us to decide what had happened and whether the summit had been reached.

Amu Dablam remains a magnificent mountain and we think that our route remains a magnificent route to the summit. That section of it which is known to us is nowhere easy, but, with the exception of the rock buttress leading to Camp I, is nowhere exceptionally difficult. From the first notch onwards the parties moved one at a time, except for a short section above Camp I and another immediately above the Grey Corner. Of those of us who went to Camp III all the Europeans had led or come down last over all sections of the route and so had Urkien, who developed during the course of the expedition into a rock climber of the highest class. Similarly, Dr. Jackson on various occasions led or came down last from Base Camp to Camp II.

We cannot be sure what lies beyond the top of the 45-degree rock ridge, but here the climbing is on ice and snow and conditions will probably vary from year to year. Those of us who have come back believe that the route beyond leads to the summit and we like to think that Mike Harris and George Fraser found the way there.

ANNAPURNA II, 1960

By LT.-COL. J. O. M. ROBERTS

I DISLIKE pretentious expedition titles, or indeed any other than the name of the mountain to be attempted, and all I can say for 'The British Indian Nepalese Services' Himalayan Expedition' is that it saved a lot of tedious explanation.

Field-Marshal Templer and General Thimaya were the god-fathers of this joint enterprise which was still in an embryonic form when I was asked to take charge towards the end of 1958. I specified an objective in Nepal and Nepalese participation followed naturally.

If anyone thinks that our rather grandiose title implied a like source of ready cash, let him think again. I do not for a moment underestimate the value of the Services' assistance that we received: leave, travel and accommodation in India and Kathmandu, the loan of some equipment (above all the oxygen sets and cylinders supplied by the Royal Air Force), and the hard preparatory work put in by those who had no expedition to which to look forward, Major-General Moulton, Mr. Pirie Gordon, Group Captain Smythe, Captain Jimmy Mills, and many others. Without these things the expedition would have been impossible, but when it came to raising the necessary funds we were in the same boat as anyone else, and financial uncertainty dogged and hindered preparations up to the last moment. In descending order of munificence, the Mount Everest Foundation, the British members of the expedition, a national Sunday newspaper and the Nuffield Trust contributed each their generous quota and at last, early in 1960, the way ahead became reasonably clear.

In an attempt to whip up some financial enthusiasm for our enterprise, I had described Annapurna II (26,041 ft.) as the third highest unclimbed mountain in the world, the other two at that time being Dhaulagiri and Gosainthan. This innocent claim produced letters to the press. Gasherbrum III (26,090 ft.), and various lesser Lhotses and Kangchenjungas raised craggy competitive heads and a writer in *Die Alpen* was so put out by a report (in a Swiss newspaper) that Annapurna II was 8,700 metres high, that he embarked on a lengthy and not very accurate history of 8,000-metre mountaineering.

Frankly, I had forgotten Gasherbrum III, but I would still stick to my guns, as the higher Baltoro peaks seem, according to published accounts, to vary in height a good deal from expedition to

expedition. As for the Numbers II of Lhotse and Kangchenjunga, I would question their claims to legitimacy, unlike the very respectable numerical families of the Annapurnas and the Gasherbrums. The numerical system has its uses where no local names exist, but becomes muddling if applied to lower features or spurs of a great mountain, not in themselves separate mountains in their own right.

The mountain massif carrying the peaks of Annapurna II and IV (24,630 ft.) lies behind and to the north of the town and plain of Pokhara in central Nepal. Various people have at various times peered at these southern approaches. High up, below the summit of IV and the almost horizontal connecting ridge running for over two miles eastwards to II, the open ice and névé slopes look not unpromising. But lower these plunge and disintegrate into a jumble of decaying icefalls, emptying down into the upper gorges of the Madi River. The way lies round the north, from the Manangbhot Valley, and from here in 1950 H. W. Tilman traced the line up the flanks of Annapurna IV which pointed the onward way to II.

Climbing under monsoon conditions that first year, our best efforts fell 500 ft. short of the summit of Annapurna IV.¹ In 1952 and 1953 Japanese parties did not get as high. In 1955 a German party² made the first ascent of Annapurna IV, but made no effort to continue towards II. In 1957 Evans and Davis had as their objective Annapurna II. They repeated the ascent of IV but for various reasons could make little progress along the ridge towards the higher peak. So, despite all this activity, when we came on the scene in 1960 the last two miles of the ridge between the two mountains and the upper 2,400 ft. of the final pyramid were still untouched.

When we collected together in Kathmandu towards the end of February 1960, half the party were complete strangers to the other half, and very few of us had ever climbed together. It is one of the weaknesses of an expedition of this sort that there are too many cooks concerned in the production of the broth. Each Service must be given fair representation, numbers are forced up, and the final product tends to be a collection of individuals of very varying experience rather than a balanced team.

We were ten (at one time twelve was the score) and this was much too many. But too many and strangers as we were, we made the final product work. In contrast to our heterogeneous selves, our nine Sherpas were a solid band of brothers, with the exception of Ang Nyima (now a soldier of the Queen) drawn from the same

¹ The party included Tilman, Emlyn Jones, Evans, Packard, and Roberts.

² The party included Steinmetz, Lobbichler, Biller, and Wellenkamp.

village in Khombu. Hardly one of them had not carried a load to 26,000 ft. or higher. They were the linchpin of our assault plan.

The uncertainty of the last few months, and the journey across India by train, had reduced the British contingent to a state of near hysteria. When I saw the quantities of food and somewhat unnecessary items of equipment that they had brought with them, I too became slightly hysterical. It was important that no feelings should be hurt at this stage, and in any case there was no time to reorganize. Some of the more obviously useless items were jettisoned, but none the less our coolie train was 156 strong when we marched out of Kathmandu on that morning of February 29, 1960.

PARTY

British Army :

Lieutenant-Colonel J. O. M. Roberts (*leader*), Major G. Lorimer, Captain W. A. Crawshaw, and Lieutenant C. J. S. Bonington.

Indian Army :

Captain Jagjit Singh, and Captain M. A. Soares (M.O.).

Royal Nepalese Army :

Captain Prabakhar Shamsheer Rana, and Lieutenant Gadul Shamsheer Rana.

Royal Marines :

Captain R. H. Grant.

Royal Air Force :

Fl.-Lt. S. Ward.

Sherpas :

Dawa Tensing, Urkien, Annalu, Ang Nyima, Angtenpa, Pemba Nurbu, Mingma Tsering, Tashi, and Angstering.

We were nearly a month earlier in the field than is traditional and a very dry and snowless winter seemed to point the soundness of this move. However, winter caught up with us in the spring, and climbing in chilling continuous rain up the Marsyandi Gorge, our bare-footed, ill-clad Tamang porters looked apprehensively at the shroud of white slowly descending on the pine woods, two or three thousand feet higher. Fortunately the crucial day, along the slippery wooden plank galleries and ladders of the upper gorge, was brilliantly fine, but a day later, at about 8,000 ft., it was no longer

possible to disregard the snow lying banked by the path. About half our porters returned from this point, but we were within two days of Manang, and the abandoned loads were relayed forward during the next few days.

Sixteen days out from Kathmandu we pitched an acclimatization Base Camp at 11,000 ft. near the mouth of the Sabcho Valley (also called Sabji by former expeditions). That was on March 15 and it was not until April 13 that we were able to push on up the valley on to the flanks of our mountain. Meanwhile, we sorted food and equipment, dug collapsing tents and shelters out of the snow and, during fine spells, slithered in slush on the surrounding heights in search of acclimatization.

Morale now demanded an early move towards Annapurna itself, and we set off with a motley collection of local coolies, mostly women and teenage children, with a sprinkling of infants-in-arms, dogs, Lamas and Tibetan refugees. Above 11,000 ft. it was snow, and deep snow, all the way and progress was slow and noisy, with the crying of children, screeching of women and universal complaint. Our objective was a Base Camp at about 15,500 ft. at the base of Annapurna IV, but quite early on the second day, I was annoyed to find the advanced guard of a few Sahibs and Sherpas snugly encamped about one thousand feet lower.

Here too travels with Sherpas who have been over the ground before must be prepared to take second place behind their leaders of yore and progress is punctuated by cries of 'Here Smith Sahib camped' or 'Here Jones Sahib always lunched'. Later we learnt to resist these appeals to conform with the past, but on this occasion Urkie had won the day. Once our coolies had seen the pitched tents and Sahibs peacefully drinking tea in the sun, there was no question of cajoling them any higher up the mountain.

It was a long carry to Camp I (17,600 ft.). Just now the weather was fine but underfoot snow conditions were trying and Grant and others had a hard tussle getting up, the following day. Meanwhile, Bonington, Ward and I climbed a small peak of about 17,000 ft. immediately to the north of our mountain. I wished to show Bonington the main features of the route as far as the top of the Dome, a large snow shoulder hunched on the north-west ridge of Annapurna IV. Here would be Camp III at 21,000 ft. The Dome is reached by its steep northern glaciated buttress, and we were relieved to see that the crux, and ice-cliff between Camps I and II, appeared this year to be in an amenable condition.

Grant and Bonington I selected as advance party and together with the Sherpas Tashi and Ang Nyima they carved and ploughed

their upward way for the next two weeks, and fixed ropes. The rest of us divided into two carrying parties and also ploughed our way upward. The mornings were fine, but every afternoon it snowed and each morning the weary furrow had to be remade. The ice-cliff was climbed and roped and a rather intricate route unravelled towards the Dome.

At last, on April 26, Grant and Bonington established Camp III at about 21,000 ft., and soon the crocodiles of the carrying parties were nearing the end of the first phase of their labours. But now the weather began to worsen. The afternoon snowfall had become a daily and monotonous feature of life and with it came high winds and low temperatures. Our upward momentum had begun to slow and it seemed that time had come to descend for a period of rest in a more pleasant clime. On April 29 and 30, Grant and Bonington advanced as far as Camp IV at 22,600 ft. while the remaining loads were brought to the Dome. On May 1 we all went down to the grass and pine trees, descending 10,000 ft. in a day.

We went right down to some stone huts near our first base at 11,000 ft. They had made a convenient dump of our surplus stores and now, most of the tents having been left on the mountain, they provided shelter. Apart from this, it was not much of a place. A chilling dust-laden wind, which blew most of the day, discouraged sun-bathing, and inside the huts it was cold enough for duvet jackets or sleeping bags.

But for the first day or two all was bliss. There were letters and newspapers to be read, and some members even washed. The horrors of our high-altitude ration could temporarily be forgotten, and in particular a large and succulent ham received much devoted attention. I was relieved to watch the quantities of food disappearing down the mouths of some who had a few days ago been feeling sick and sorry for themselves. I only wished I could emulate their example. I, too, had eaten very little during the last week on the mountain. Now, not even the ham could tempt my appetite. It seemed that about my only Himalayan asset, a strong stomach, had at last revolted after twenty-two years of maltreatment.

For the final phase I decided to streamline our rather large party and to keep Lorimer, Soares (our M.O.) and Gadul in a supporting role. Everyone had worked so hard during the first and crucial phase of the climb and I had to avoid the blank, hurt looks which greeted this announcement. The decision was the easier to take as I had begun to realize that I would almost certainly be keeping them company myself. Based on present form and past record Grant and Bonington were the natural summit pair and I gave them

seven out of our nine Sherpas to help them do the job. Jagjit, Crawshaw, Prabakhar and Ward with Dawa Tenzing would assist the assault group to carry as far as Camp IV at 22,000 ft., and thereafter make an attempt on Annapurna IV.

These rather boring days of rest were enlivened towards the end by the men of Manangbhot. Never a very friendly folk, these Tibetan-like creatures had so far caused us little trouble. However, on the day that Dawa was due to go up to move our mountain Base Camp to a higher and more suitable position, the coolies that had been promised failed to materialize. Instead, came a summons from the Town Council that we had better come and explain ourselves. I despatched Prabakhar as an emissary and he later returned with a somewhat incoherent story. It seemed that we were accused of shooting bharal and of smoking; the fine for these offences was 3,000 rupees, but if we promised to behave in future they would settle for 50. We had a licensed gun, but it would have been courteous, I had to admit, to have enquired about the local game laws. The truth is that I did not think that these normally wily sheep would be stupid enough to stray within range of Prabakhar's gun. Two of them had, and their meat was excellent. As for smoking this was forbidden by a self-denying ordinance of two or three years' standing. We settled the affair amicably enough the following day, paid an advance of 30 rupees, showed them the shot-gun, now in several pieces (Gadul having descended a cliff in over-quick time with it the day before) and submitted to a token confiscation of cigarettes. Later we discovered that during these parleys a raiding party had looted Base Camp of two tents, two pairs of H.A. boots, a quantity of food and Annalu's trousers. One up to Manang.

The weather was now set fine and there seemed to be little wind on the mountain. I was tormented by thoughts that we ought at this time to be ready poised for the final assault. However, the move up which began on May 7 went quickly forward. By the 11th Camp III at 21,000 ft. had been fully reoccupied and I was left by myself in the huts in solitary dyspeptic state.

On the 12th Lorimer came down to the huts and on the 14th, feeling a little better, I set off to join Soares and Gadul at base, now moved up to nearly 16,000 ft. My feeling of well-being was short-lived and I reached camp in the late afternoon after a severe struggle. On the way up I watched small specks moving along the ridge beyond Camp IV and up the slopes below Annapurna IV. The carry to Camp V was on. I also passed Jagjit Singh who was descending escorted by Dawa. After having carried strongly to Camp IV he had become ill and wisely decided to come down. It

was bad luck. I would have sympathized more if I had been feeling better myself. He reported all well on the mountain.

There followed two dreary days at base. The very fine spell of weather had ended and snow fell in the afternoon. I had talked glibly about going on up to Camp III, but it soon became evident that I had shot my bolt and a half-hour stroll on the moraine was about my limit. Soares went down to the huts and Gadul, Angstering and I spent our time searching the cloud-decked mountain. Up there Dick Grant was in charge and there was nothing for me to do but wait.

On the 15th we saw figures moving up on the second carry and occupation of Camp V. On the 16th we could see nothing. This was the day planned for the occupation of Camp VI and May 17 for the first summit attempt.

From the Dome at 21,000 ft. a broken ridge, broad in places, runs north-east for about three miles to the base of Annapurna IV. Camp IV was rather more than half-way along this ridge. Beyond Camp IV there is a steep climb up the shoulder of Annapurna IV to about 24,000 ft.—Annapurna IV is by-passed to the north and the final ridge stretching along eastwards to Annapurna II appears. This is about two miles long and at the south-west of the ridge the final pyramid of Annapurna II rears up like the bows of a battleship. This ridge is narrow and corniced, and the slope falling away to the south is at an angle of about 45°. Camp V was at 23,850 ft. over the Annapurna IV shoulder and down to the take-off point of the ridge. Along the ridge there are at least two formidable notches to negotiate. The first of these was just beyond Camp V and was Evans' furthest point in 1957.

In our planning we had put Camp VI at the base of the final pyramid and reckoned its height might be 25,000 ft. We were far out. When they reached the site of Camp VI with their seven Sherpas on May 16, Grant and Bonington found that they had in fact descended slightly from Camp V and judged (by altimeter) the height to be only 23,650 ft. There were still 2,400 ft. to climb.

The weather on May 16 was unsettled—at base it snowed the whole afternoon. Grant therefore decided to make a dump of oxygen bottles and stores at Camp VI and to return to Camp V for the night. We had no second assault group as planning was based on giving the summit party food and fuel enough to sit out a period of bad weather. Our carrying strength just did not permit placing a second group at Camp VI. Above Camp IV Grant and Bonington used oxygen for both climbing and sleeping. On



A GENERAL VIEW OF THE MOUNTAIN WITH OVERLAY SHOWING ROUTE AND CAMPS



VIEW OF MOUNTAIN BASE CAMP



VIEW FROM THE UPPER RIDGE WITH MACHAPUCHARE IN THE BACKGROUND



PARTY OF SHERPAS JUST BELOW THE DOME

May 16 four Sherpas were sent down to Camp IV, leaving Ang Nyima, Urkien and Mingma at Camp V.

Grant had not committed himself to a night at Camp VI as he preferred to sit out the threatened spell of bad weather at Camp V. However, the morning of May 17 was fine and he boldly decided to make an attempt on the summit that day. I had told him I wanted him to take one Sherpa to the summit and said that if possible this should be Ang Nyima. So the three set off, followed by Urkien and Mingma with the remaining equipment for Camp VI.

The summit trio passed the site of Camp VI at about noon and changed their oxygen bottles. The climbing had not been easy and now they embarked on the crux of the climb. Bonington led, followed by Grant and Ang Nyima. Grant's oxygen set was faulty and giving him little assistance—Urkien and Mingma returned to Camp V.

Down at base the sun shone and the mountain was clear all the morning. In the afternoon the summit pyramid was shadowed by passing clouds. We searched the mountain with binoculars all day. It was about 3-30 p.m. that I saw them. A rock that I had been watching about 300 ft. below the summit moved—and then I saw two other small dark shapes below. The three, looking like small black specks, moved steadily up. Nothing could stop them now—Annapurna II was climbed. In various ways we had all climbed it, our summit delegates that evening of Tuesday, May 17, 1960, were Captain Richard Grant of the Royal Marines, Lieutenant Christopher Bonington of the Royal Tank Regiment and Lance-Corporal Ang Nyima Sherpa of the 10th Princess Mary's Own Gurkha Rifles. They reached Camp VI at nightfall.

The next morning I sent Gadul down with the good news. We had been languishing at base for eight days and his cigarettes and favourite chutney were long finished. I have seldom seen anyone move quicker when given the word to go. On this day Urkien and Mingma made an unauthorized third ascent of Annapurna IV before fulfilling their proper Sherpa duties of helping the summit party evacuate Camp V. On the top tied to a bamboo wand they left a very dirty pocket handkerchief. On May 19 this relic was discovered by Crawshaw, Prabakhar and Ward who with Tashi repeated the ascent from Camp IV. Considering the experience of this party their effort ranks almost with the ascent of Annapurna II.

We cleared the mountain in double quick time and extracting our celebrating Sherpas from the alleyways of Manangbhot marched

on to Pokhara by way of Mukhtinath and the Kali River. At Pokhara on June 3 we boarded an aeroplane for Kathmandu.

For so many months we had been moving, walking and climbing. We were tired. But now other forces were at work. Away to the north coming through the cloud castles of the monsoon rose our mountains, now remote from reality as we rode the air so easily past the scene of our struggles. Those who had climbed them could feel the pride of achievement and for the rest of us there could be no bitterness, no regret nor pain.

As the clouds closed in we passed over the grey flood of the Marsyandi River, by which we had marched and lived so long. Peak 16,041 ft. gives birth to this great river and watches over its wandering course until it breaks through the foothills into the southern plains. We had long sought an alternative name to the anonymity of the numerical title of our mountain. It comes to me now, as I write, that Marsyandi Himal should be its name.

FOOTNOTE BY R. H. GRANT

From Camp V, situated in a shallow basin, the route led along a ridge. The ridge fell vertically on the north side and was topped with a cornice. On the south it fell away at an angle of 45° for at least 3,000 ft. The general trend of the ridge was downwards until it ran into the abrupt rise of the triangular summit mass of rock and snow. Camp VI was lower than Camp V.

In the traverse a series of small bumps had to be negotiated, each bump increasing the steepness of the angle to $50^\circ-55^\circ$. Two bumps dropped on the summit side in vertical steps. Both were of ice with an overlay of soft snow. Ropes were fixed and steps cut to negotiate these.

During the summit attempt an area of possible windslab was crossed. The danger was avoided by going to the safe limit on the cornice. At the lowest point of traverse soft snow was encountered, causing legs to sink to the calves.

The summit triangle rose up abruptly in comparison to the gentle rise of the ridge. A rib of rock at an angle of $45^\circ-50^\circ$ ran all the way to the top offering the only likely line. The rib was stepped in places by boulders and perched slabs which presented severe rock-climbing difficulties. Some snow with underlying ice over the rock was attached to the rib. It had a hollow sound when being climbed over. At times difficulties on the rib were avoided by moving out to the right into a shallow snow gully. The summit was of snow.

DHAULAGIRI, 1959

By FRITZ MORAVEC

(Translated by Hugh Merrick)

THE Austrian Himalayan Foundation sent out its fourth Himalayan expedition in the pre-monsoon season of 1959. In its short existence, the Foundation had organized expeditions to Saipal in 1954, to Gasherbrum II in 1956 and Haramosh in 1958, success being achieved on both the last-named peaks. Now the objective was the last of the eight-thousanders accessible to Western climbers, 26,795 ft. Dhaulagiri.

There were six experienced climbers, a doctor and a photographer in the team. The Nepalese Government attached Lieut. Krishna Bikram Rana as liaison officer. The members of the expedition were:—

Ing. Fritz Moravec (leader), 37, Viennese schoolmaster.

Dr. Wilfried Wehrle, 27, from Salzburg, doctor.

Othmar Kucera, 27, from Leoben.

Stefan Pauer (photographer), 36, electrician from Ortmann.

Karl Klein, 31, steel-fitter from Leoben.

Hans Matay, 29, photographer from Vienna.

Heinrich Roiss, 32, civil servant from Vienna.

Ernst Vanis, 31, master-furrier from Vienna.

We had engaged that most experienced Sherpa Sirdar, Pasang Dawa Lama. On this expedition he again proved his outstanding qualities, no matter what the conditions, on rock and ice, and has certainly earned the 'Tiger Medal' he owns. He brought with him the following high-altitude porters of his own choosing:—

Ang Nyima, Gyalzen, Ang Pasang, Pasang, Jungboo, Nyima Phutar, Pemba Phutar, Pasang Temba, Na Temba, Yila Pasang, Pemba Gyalzen, Norbu, Phurba Gyalzen.

Even if there were discrepancies both in age and experience, we could not have wished for a better team of Sherpas. Every one of them was a willing and active contributor to the success of the undertaking. Before they left Darjeeling they were examined by the Honorary Doctor to the Himalayan Club, and all were fit men, with the exception of Phurba Gyalzen who contracted an abdominal ulcer before the actual operations on the mountain began and had to be sent down to Pokhara where he unfortunately died in hospital.

Pokhara was our rendezvous-point with the Sherpas and it was from there that we set off for our mountain, after adding to our supplies and engaging 177 local porters for the transport of our equipment to Base Camp.

We followed the approach route opened up by the Swiss in 1953, which leads to the northern flank of Dhaulagiri, up the valley of the Mayangdi Khola by way of Beni and Muri and a big westerly detour. On April 3, we established our Base Camp at a height of 14,750 ft. on the Mayangdi Khola Glacier. The journey from Pokhara had taken 16 days. The normal set-backs caused by strikes on the part of the porters and breaks in the weather had caused slight delays, but did not interfere with our progress.

Six expeditions had attempted Dhaulagiri before us. The first was Maurice Hertzog's French party in 1950. They had tried to approach the mountain by its eastern face, and carried out an unsuccessful reconnaissance work before turning their attentions to Annapurna I.

In 1953, the Swiss made their first attempt. Not only did they find a better approach route through the Mayangdi Valley but they discovered the only apparent weak spot on the relentless North face of the mountain, many miles wide—the route over the 'Pear'. This was the route followed in all subsequent attempts—the two Argentine expeditions in 1954 and 1956; the German-Swiss in 1955; and the Swiss again in 1958.

Max Eiselin and Detlef Hecker, who took part in the 1958 Swiss attempt, advised us emphatically to take a close look at the possibilities of the North-east spur. In the face of the depressing report Lionel Terray, Bernhard Lauterburg and Dr. Pfisterer had issued about the North face route, they held the view that the spur must be given serious consideration.

Six days after the establishment of Base Camp, Erich Vanis, Pasang Dawa Lama and I started off on a preliminary reconnaissance of the North-east spur, and during the afternoon placed a temporary rest-camp in the middle of an icefall at about 17,050 ft.: this later became our Camp I. Here we were able for the first time to overlook the ground up to the North-east col and we gazed longingly up at the spur, whose northern precipices were of dark rock. The crest of the spur showed up from here as a narrow white ribbon of snow and ice on the underlying rock. There was no way of judging from this point whether the ridge could be climbed or not.

On April 10, we climbed on across the deep snow-covered glacier, in the direction of the col. Bad weather put an end to our progress and it was at this point, some 1,300 ft. above our

rest-camp, that we had to decide by which route we were going to attempt the mountain. The factors in our final choice were these. The dangers of the 'Pear' route are seriously enhanced by every fall of fresh snow; against this, we would be less menaced by snow or rock avalanches on the spur. Here, too, the ascent lay mostly over ice, so that we would be able to continue the work of preparing a safe route for the porters even if the weather was not good. What is more, we got the impression that the technical difficulties on the ridge ended at about 23,600 ft., whilst the route up the North face became more difficult technically as it approached the summit ridge. This assessment led us to come down firmly in favour of the North-east spur. Pasang Dawa, who had been high on the North face, voiced the opinion that the summit should be attainable over the spur in three weeks' less time than by the face. His comparative evaluation was probably correct; but, unfortunately, the unfolding of events was to teach us the sad lesson that his forecast had been all too optimistic.

Our reconnaissance completed, we began immediately to mount our assault. We enlarged Camp I and established Camp II at 18,700 ft. close under the North-east col. By April 21, we had even managed to site Camp III, at about 20,175 ft., at a point where the ridge is not very accentuated. Three days later we were able to report down to Base over the intercom radio that the first tent had been pitched at the foot of the steep step in the ridge at 21,325 ft. We had been lucky enough to push four camps up the mountain in a fortnight, and our rapid progress had raised morale to a very high pitch.

On April 29, while we were at work preparing the route, disaster struck. Heinrich Roiss fell into a crevasse not far from Camp II. It was a deep crack in the glacier, which narrowed towards its bottom; and, in spite of heroic rescue efforts by the whole party, he was dead when we recovered him. We carried our friend's body down to the Mayangdi Kholā Glacier and there, on firm ground beside the glacier's edge, performed the last service we could do for him. A small birchwood cross stands on the mound where he lies, full in sight of Dhaulagiri towering above.

We had come to the mountain full of high hopes and enthusiasm; now we could hardly believe the pitiless sacrifice it had exacted.

Roiss's death had not only taken from us a friend but probably the best climber in the party. We were all the more determined to push on up our chosen route, for we regarded the pursuit of our venture as a kind of legacy he had left us. So the assault on the 'White Mountain' continued.

On May 3, Erich Vanis, Pasang Dawa and seven Sherpas pushed up again to Camp II and, during the days that followed, Sahibs and porters alike were continually on the move. There were, however, frequent set-backs. We found the tents at Camp III completely buried under a mass of snow and the walls of the tents had been torn to pieces. So we had to get down to digging caves in the snow. We established Camp IV at a very exposed point in the ridge: when Pasang Dawa and the Sherpa Pasang spent their first night in it, the gale carried their tent away and they were subjected to the full fury of the elements without any protection whatsoever. It was not till after dawn that they were able to start digging a cave there too. Anyone who has been above 21,300 ft. will know what an effort that involved.

Above Camp IV the way was barred by a steep ice-slope, covered by sheets of absolutely smooth ice. This had to be safeguarded before it could be ascended by the porters. Our Sirdar secured the first fixed rope on May 7. It took a full fortnight before this slope of nearly two thousand feet could be made properly safe with the necessary rope hand-rails. Dhaulagiri's notorious weather continually held up the work. It either snowed heavily all day long or the sky was blue in the morning only for the gale to howl without a break till midday, when the weather would break again.

A serious accident, fortunately without serious consequences, happened during the night of May 19-20. Ratay and three Sherpas were sleeping in the cave at Camp IV, when he woke up and found he could hardly breathe. It soon became clear that an avalanche had blocked the mouth of the cave. Ratay immediately woke the Sherpas and after hours of hard work they forced a way out into the open. It seems certain that the only reason they escaped suffocation was that a small crevasse ran through the cave, allowing just a little air to get in.

Two days later, an exception in the shape of a fine day tempted Ratay, who still had a fierce headache after the narrow escape from nocturnal extinction in the cave, to press on and establish Camp V at the point selected. Before describing his effort, I should like to give a brief summary of our position.

Things were, in fact, pretty grim. Our date for the assault on the summit was already a thing of the past and we had to reckon on the breaking of the monsoon. Worse still, our fuel was running low. We therefore decided that all Sahibs and Sherpas suffering from exhaustion or any form of unfitness must go down at once to Base. Those who still felt fit and energetic would stay and make the attempt on the summit. Ratay was past his best, but anxious to

make one more contribution to the success of the operation. In spite of several earlier and unsuccessful attempts, he forced a way up to the little platform which was to lodge our Camp V. In doing so he exorcised a positive gremlin, which had been sitting heavily on our spirits.

The very next day Pasang Dawa moved up, pitched two tents and protected the steep rock-face immediately above Camp V with pitons, thus opening up the route to Camp VI at 24,300 ft. On the 24th he and Karl Prein occupied this, our highest camp.

The following description of the decisive phase which ensued is in Karl's own words:—

'The very first night we occupied the tent at Camp VI, it was seriously damaged by the wind and there was no chance of sleeping after that. Somewhere about 4 a.m. when I had just dozed off for a little, Pasang woke me and said it was time to get ready for the climb. He proceeded to stir some *tsampa* in hot water and that was all the breakfast we had before starting off.

'The ridge was bathed in early sunlight, the sky overhead was blue, the route was no longer particularly difficult at this point and everything would have been lovely if it hadn't been for the overpowering force of the wind. We plodded upwards with set teeth, fighting against the hurricane all the way. After four hours we were frost-bitten to the bone; the loss of sensation in our hands and faces grew worse and worse. But we didn't want to turn back, because the way to the top was plainly visible and we gauged that five to six hours were required to reach it. We stopped for yet another rest and breathing space. Even when standing still we had to brace ourselves against the wind. Otherwise it was a perfect day. The views across to Annapurna and out over Tibet were surpassingly beautiful, but the battle against the howling gale demanded all our attention and our last remnants of strength. Pasang rubbed his cold hands on his thighs and remarked: "Perhaps there won't be a wind tomorrow." There was no need to interpret his words; they were the inevitable signal for a retreat.

'Back we went to our tent. The gale had played havoc with our already damaged shelter while we were away. One wall had been split from top to bottom and was fluttering in the wind. We tried emergency repairs with string, but it was just as cold inside as it was outside, and we spent an endless night of sheer discomfort. The wind blew in a fine powder of snow on us until, by dawn, we were covered in a two-inch blanket of the stuff. Then Pasang was urging me on to another start.

'The next day, the 26th, there was no blue in the sky. It was

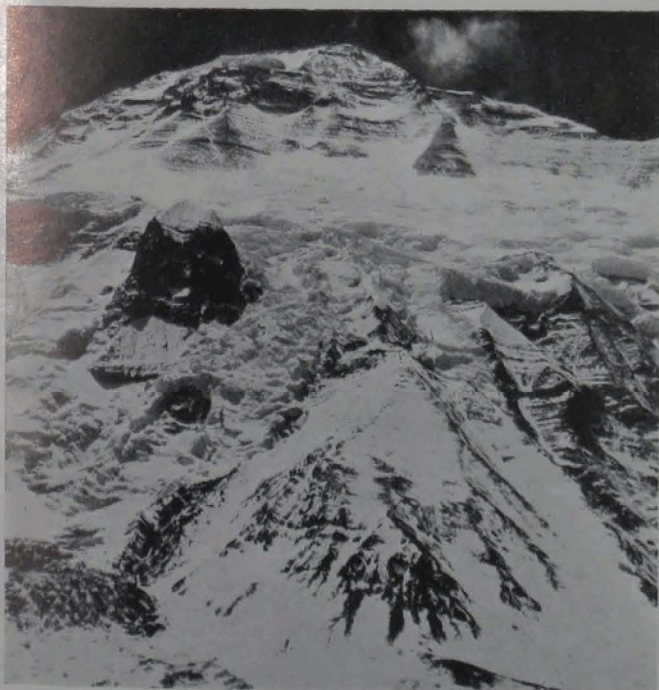
covered over by racing battalions of grey cloud; and if anything the gale was stronger than the day before. We climbed up the now familiar ridge. Quite often I couldn't even see my companion, who had disappeared into a wall of mist ahead of me. Visibility was down to a yard or two. We stopped once again to recover our breath, a long way short of yesterday's point of return. We just looked at each other and nodded, and turned back again. Once again it was Dhaulagiri's hideous gale which had forced us to retreat. Soon we were lying down in our tent once more. Then suddenly Sherpa Pasang and Gyalzen poked their heads through the rent in the tent-wall and said: "Sahib, we'll have to sleep here, too. During yesterday a stone-fall buried our tent at Camp V and we bivouacked in the open last night; but may we please come in with you now?" So the pair of them crawled into our draughty shelter, which was so small that we literally had to lie on top of one another. It was at least warmer. I was particularly sorry for Sherpa Pasang. The avalanche had torn his sleeping bag to ribbons so he had to spend the night without one. We could only give him such warm clothing as we could spare.

'A third night followed. Pasang said it was the worst he had ever lived through. The grey morning light came as a kind of deliverance. The weather was worse than ever and the wind smothered us with driven snow and ice. All the same, we tried a third time. We hadn't got far before it began to snow very heavily. There was no sense in going on. Indeed, common sense dictated only one decision, and that was to get down to much lower region with the least possible delay. This final decision to retreat, which meant of course the complete abandonment of our objective, was not only a hard one for me to take, but it was especially hard for Pasang Dawa Lama. In utter depression he reached out both hands to me and said: "We have no key to this mountain. Three times have I come high on it, but the Gods don't want us to invade their habitation."'

Prein's report ends with those words, and I have little to add. We got down off the mountain and back to Pokhara without mishap of any kind. If we have done anything to make the way easier for the climbers who will eventually stand on Dhaulagiri's summit, our expedition will not have been in vain and we shall have fulfilled our mission as mountaineers. But the mountain claimed from us a dreadful sacrifice. In his wonderful book, 'The Romance of Mountaineering,' written many years ago, long before anyone had set foot on the summit of an eight-thousander, R. L. C. Irving wrote: 'If the credit of the first ascent is the great reward'



DHAULAGIRI: NORTH-EAST RIDGE, LEFT SKYLINE



THE 12,000 FT. HIGH NORTH FACE OF DHAULAGIRI,
'PEAR' BUTTRESS, UPPER CENTRE

be won on Nanga Parbat, the successful party can hope for little more than to collect a prize on which the names of Merkl and his friends are already written.'

And whoever does climb Dhaulagiri will find inscribed on the victor's crown the names of Ibanez and Roiss.

DHAULAGIRI, THE 'WHITE MOUNTAIN': A CHRONICLE OF THE 1960 EXPEDITION

By KURT DIEMBERGER

(Translated by Hugh Merrick)

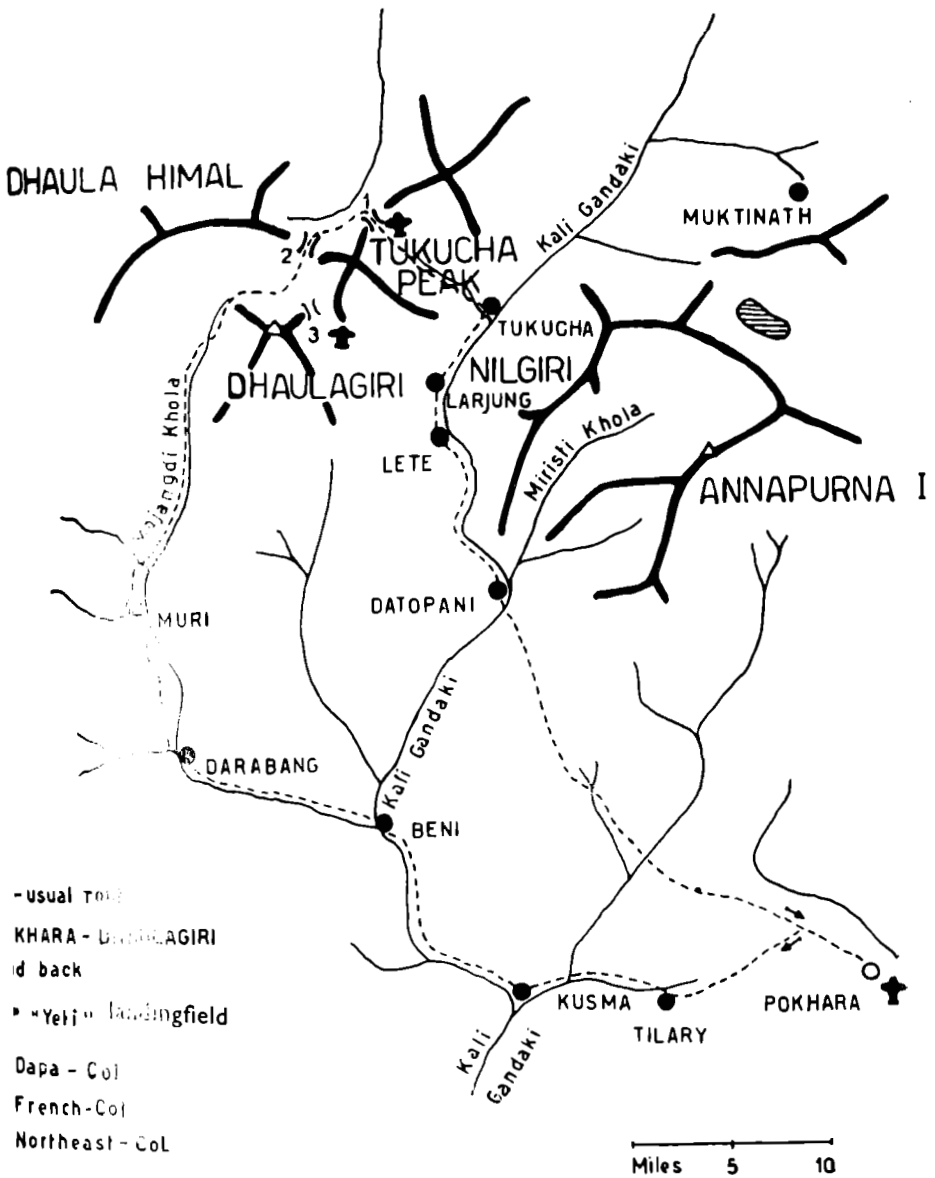
Photos by E. Vanis, Austrian Himalayan Society,
and Kurt Diemberger, Austrian Alpine Association

THE name Dhaulagiri means 'White Mountain'. This is appropriate, for the rock and ice flanks of this mountain, notorious for its bad weather, mostly glitter with the white of freshly-fallen snow. From a distance the peak resembles an enormous, shining pyramid.

The latest assessment of the peak's altitude is 8,222 m. or 26,975 ft. The bad weather, bringing gales of up to 100 m.p.h. which rage around this isolated peak, explains why it was not climbed for ten years (1950-60) in spite of strenuous attempts. Dhaulagiri is a perfect example of the debt due by the expedition which finally succeeded on a great peak to its predecessors, for their reconnaissance work and experience gained during their attempts; so that in the end, the success is shared by all those who tried, or even gave their lives, on the mountain. The international character of that success is marked by the fact that it was a combination of climbers from several countries which first reached the summit on May 13th, 1960.

Historical Notes (see sketch map 1):

1949. Prof. Arnold Heim's Dhaulagiri flight, resulting in valuable photographs.
1950. The French Himalaya expedition which went on to climb the first eight-thousander, Annapurna I, made a valuable reconnaissance. They explored the eastern approach and then, working from the north, reached the 'French col' from which they were able to examine the huge North face and its containing ridges for the first time. This resulted in considerable modifications of the existing map.
1953. A Swiss expedition of the A.A.C., Zurich, was the first to penetrate the length of the Mayangdi Khola valley to the foot of the North face. They chose the western part



SKETCH MAP I

of the face for their ascent, hoping to reach the summit by gaining a footing on the West ridge at the very top. They reached a height of 24,600 ft. on the face, but any idea of an attempt on the summit was stultified by the absence of any possible camp sites. The Swiss route was named the 'Pear' route on account of a prominent rock

feature in the upper part of the face. They also reconnoitred the North-east col, with important results for the future, for they established that the huge snow-saddle was suitable for 'drops' from the air and even for landings by an aircraft.

1954. A large Argentinian expedition led by Francisco Ibanez attempted the mountain by the Mayangdi valley and, the 'Pear' route. They solved the problem of camps by the original method of blasting an artificial platform for their high assault camp, detonating 27 charges. Later they established a still higher camp at 24,900 ft. They then found the sector of the ridge above it unclimbable (the so-called 'Cathedral Towers') and a reconnaissance party consisting of Watzl, Magnani and the Sherpas Pasang Dawa Lama and his brother went out to find out whether the obstacle could be turned. They succeeded and pressed on towards the summit, bivouacking at about 26,000 ft. but being forced down again by bad weather. The monsoon prevented a further attempt. The mountain claimed its first victim when Ibanez, the leader of the expedition, died of frost-bite on his return to Kathmandu. The expedition reached the highest point on the 'Pear' route.
1955. Attempt by a German-Swiss expedition by the same route.
1956. A second Argentinian expedition, using the same route, reached the ridge and sited their highest camp at 24,930 ft. The early advent of the monsoon prevented any attempt on the summit.
1958. A second Swiss expedition reached the same height on the 'Pear' route, siting their last camp there, only to be driven down by bad weather.
1959. An Austrian expedition led by F. Moravec, who had already been the leader of the successful Gasherbrum II party, tried a new route, up the North-east spur. They quickly pushed a line of camps up from Base Camp at the foot of the North face to the North-east col and beyond it up the spur. Here a disaster befell them: Heir Roiss, a well-known Austrian climber with Himalayan experience, falling into a crevasse from which he was brought out dead. His team-mates buried him on the partly earthy lower slopes of 'Pt. 6,000', between Dhaul Himal and the French col.

Meanwhile, storms had partly wrecked the high camps. When they had been re-established, the party set to, by dint of wearisome and exhausting efforts, to provide an unbroken chain of fixed ropes up the great ice-slope of the spur (the 'Ice-wall'; see sketch map 2) and the somewhat shorter rock-step above it; thus reducing the main difficulties of the spur and making an attempt on the summit feasible. Karl Prein and Pasang Dawa Lama set out from the last assault camp at about 24,100 ft. on the decisive effort; but the advance monsoon had already broken and a terrible storm forced them to turn back at about 25,600 ft. They made two further attempts on the next two days, only to be forced to admit defeat; the monsoon had won the race. They had, however, established that the rest of the route was possible and not even particularly difficult, and reckoned it would require about five hours. The expedition did not have the luck to complete the climb, but it brought back the news that success next year was almost a certainty.

1960. An internationally-constituted Swiss expedition, supported by a glacier aircraft, the *Yeti*, attempted the peak by the North-east spur. The leader was Max Eiselin, who had been a member of the 1958 expedition. The novelty in Himalayan climbing annals was the elimination of the normal approach march by lifting men and materials alike on to the mountain by air; it having been established in 1953 (see above) that the wide North-east col at the foot of the spur offered an ideal landing ground. An 'Acclimatization Camp' was set up on the Dapa col at 17,060 ft. and members were flown up to it from Bhairawa and later Pokhara. The sudden lift from the Plains to such a height was soon found to be too much for some of them, and several invalids had to be flown down again for a recovery period. As soon as the greater part of the material and a small party of climbers were safely placed on the North-east col, the aircraft went out of service for a longish time owing to engine trouble. As a result, the expedition was split into isolated groups which, however, went on with the good work on their own and according to their separate situations, of siting high camps on the spur, or bringing the rest of the supplies up the lower slopes.

On May 13th, shortly after all the groups on the mountain

had restored contact, the summit of Dhaulagiri was reached at the second attempt, a first effort on May 4th, by the party at work on the spur having nearly succeeded but having been forced to turn back at about 25,600 ft. by bad weather. Ten days later, on May 23rd, two further members of the expedition reached the summit. All in all, a triumph beyond any expectation. The aircraft, having meanwhile crashed irretrievably, the expedition withdrew on foot by the usual route (see sketch maps 1 and 2).

Before providing a day-to-day reconstruction of the events in 1960, I should like to make the following general comment:—

The Swiss expedition of 1960 was a private expedition of international constitution. The organization was successfully decentralized and the expedition received support from several countries. The membership shows that boundaries do not exist in the realm of mountaineering. Those who took part were:—

- Swiss: Max Eiselin (leader), Albin Schelbert, Ernst Forrer, Michel Vaucher, Hugo Weber, Jean-Jacques Roussi, Ernst Saxer (pilot), Emil Wick (mechanic and co-pilot).
 Polish: Dr. Georg Hajdukiewicz (doctor), Adam Skoczylas.
 American: Norman Dyhrenfurth (cameraman for the film).
 Austrian: Kurt Diemberger.
 German: Peter Diener.

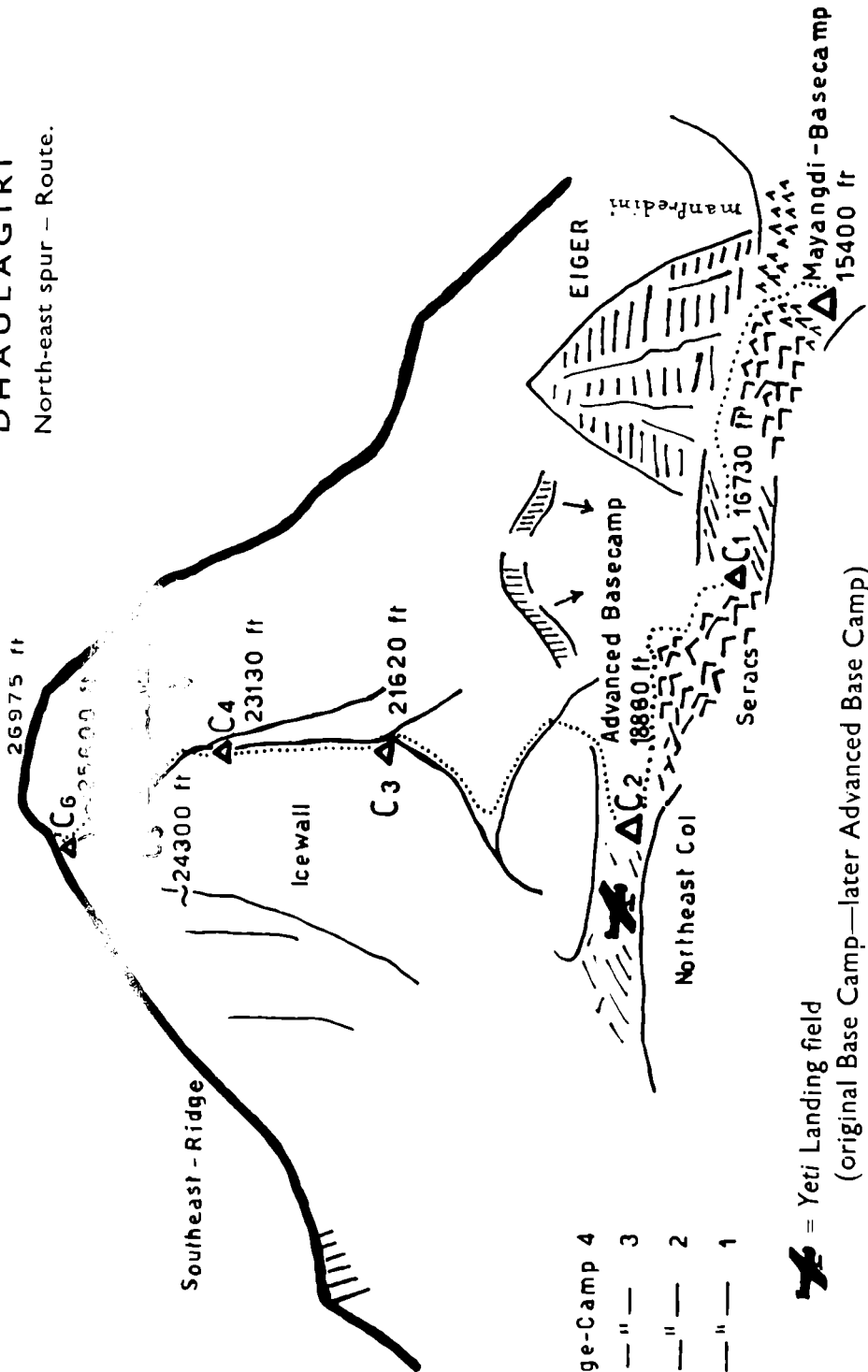
Seven Sherpas from Nepal made up the party, whose equipment and provisions weighed 5 tons in all.

THE DIARY

- Feb. 29th, 1960. Vaucher, Forrer, Hajdukiewicz, Skoczylas and Diemberger left Genoa in S.S. *Ara*, arriving at Bombay on March 14th.
- March 12th. The aircraft *Yeti* left Zurich. Besides Saxer and Wick, Eiselin and Diener were on board. The aircraft arrived at Kathmandu on March 20th with 6 passengers, for Weber and Schelbert, who had flown out by India Airlines, were now on board. Roussi, who lives in Kathmandu, was already on the spot. Dyhrenfurth had flown in from the U.S.A.

DHAULAGIRI

North-east spur - Route.



- C6 = Ridge-Camp 4
- C5 = " 3
- C4 = " 2
- C3 = " 1

C = Camp  = Yeti Landing field
 (original Base Camp—later Advanced Base Camp)

SKETCH MAP 2

- March 20th-25th. The expedition's baggage being transported in two lorries from Bombay to Bhairawa, from whose air-strip the first lifts to the mountain were scheduled. (Later transferred to Pokhara.)
- March 28th. First landing by *Yeti* on the 17,060 ft. Dapa col. The second flight on that day left Forrer and Diemberger at the col to establish the 'Acclimatization Camp', which was supplied and extended with the arrival of all members of the expedition during the following days. Everyone suffered severe discomfort for the first two to three days of acclimatization; some members had to go down again on account of serious mountain-sickness or chills.
- April 3rd. First landing by *Yeti* on the North-east col (18,860 ft.), a world record for a glacier-landing by an aircraft. On the second flight that day Forrer and Diemberger were put down at the col, and Base Camp (later Advanced Base) established.
(During the following days *Yeti* kept up a running supply of material to the col. Of the two Sherpas brought up, one had to be flown down to Pokhara with pneumonia and was replaced by another.)
- April 11th. First reconnaissance of the spur, over the ice-slope, to 20,180 ft.
- April 12th. Schelbert and two Sherpas arrived at the col.
- April 13th. *Yeti* force-landed at Pokhara owing to engine trouble and remained unserviceable till May 4th waiting for a new engine which had to be flown out from Europe and then installed.
- April 15th. First high-altitude camp established on the spur (Ridge Camp 1, 21,620 ft.). (The Forrer-Diemberger-Schelbert group, with four Sherpas, now had sufficient equipment and supplies, but was completely isolated and not even in radio touch with the others. It was decided to push on with a small-party assault of the type with which Diemberger was already familiar from Broad Peak, dispensing with oxygen, except for two emergency bottles; relying on small high camps, the first of which must be pushed as high as

possible and heavy load-carrying by every individual, to ensure the quickest acclimatization, fitness and mobility of the group.)

Skoczylas and the Liaison Officer started out from Pokhara with 12 porters to bring up the remaining material to the mountain by the route through the Mayangdi valley.

April 21st.

Saxer and Dyhrenfurth having brought the news of *Yeti's* mishap from Pokhara to the Acclimatization Camp on the Dapa col, Saxer, accompanied by Eiselin, left two days later to look after the aircraft down at Pokhara.

Under the leadership of Hajdukiewicz, the Dapa col group began the ferrying of the material accumulated there, by way of the French col and the Mayangdi glacier to the North-east col, a most laborious shuttle operation.

April 24th

Vaucher, Weber, Roussi and Diener, of the Dapa col group, established a Mayangdi Base Camp at 15,400 ft.

(Next day Hajdukiewicz and Dyhrenfurth also arrived there and met Skoczylas, who had come in from Pokhara that morning, his porters having dumped their loads at Tsaarabon, at the foot of the glacier.)

April 27th

Weber and Diener established a Transit Camp C.1 at 16,730 ft. between the Mayangdi Base Camp and the North-east col and pushed on up to the col, followed next day by Vaucher and Roussi.

Hajdukiewicz, Dyhrenfurth and Skoczylas went down to Tsaarabon, at the foot of the glacier, to start bringing up the loads.

April 29th.

After days of struggle against continual bad weather and high winds the Forrer group established Ridge Camp 2 at 23,130 ft. above the ice-wall on the spur, a few feet below the Austrian Camp V of 1959. (There were no other traces, except fixed ropes dug out of the ice, lower down.)

This camp was in a very airy position and seriously exposed to the wind, but there was no other possible site.

May 1st.

Diemberger climbed the 350 ft. rock-pitch above Ridge Camp 2, re-established the old fixed ropes left in position the year before, and dumped the tent for the next high camp at the top of the rocks.

May 2nd.

The Forrer group established Ridge Camp 3 at about 24,300 ft. This took nearly the whole day, as the three men had to shuttle the four essential and very heavy loads in turn. On the ascent, at the top of the rock-pitch, they established the first contact by voice with the Dapa col group and learned what had happened to *Yeti*. (Weber and Diener had climbed from C. 3 to C. 4 and back again, thus restoring the contact by voice.)

NOTE.—Owing to the establishment of the support camps Mayangdi Base and C. 1 below the North-east col, the original Base Camp on the col was now re-named Advanced Base Camp C. 2, and Ridge Camps 1, 2 and 3 became C. 3, C. 4 and C. 5.

May 4th.

After a rest-day at C. 5, Forrer, Schelbert and Diemberger started out early on their first assault on the summit. Any attempt to move up the snowfields to the right proved abortive owing to the condition of the snow, so they climbed a rock-pitch into a snow couloir between rock-ribs and making headway, now up its containing ribs and now in the couloir itself, reached a point at about 25,600 ft. Here, at midday, bad weather forced them to abandon the attempt.

This convinced them that it would be best to establish yet another (one tent) bivouac camp at this altitude. From it they could then reach the summit, only about 1,350 ft. above, before the usual midday break in the weather.

On the next day they went down to the North-east col for a few days' recuperation before putting this plan into execution.

The same day (May 4th), *Yeti* arrived at the North-east col, with Max Eiselin on board, after its three weeks' absence unservicable.

- May 5th. At 10-15 *Yeti*, when taking off from the Dapa col, crashed owing to a broken rudder-bar. The pilot and co-pilot were unhurt and stayed at the col for two days before setting out for Pokhara on foot.
- May 9th. Forrer, Diemberger and Schelbert with Nima Dorje and Nawang Dorje left the North-east col on their second summit assault and moved up all the way to C. 4 at 23,130 ft. during the day. This stage of 4,300 ft. in a day was admittedly considerable, but absolutely justifiable in view of the fine weather chance and the splendid condition of the party. In 1957 on Broad Peak, on both summit attempts, the differential on the first day had been as much as 4,900 ft. On those occasions, as on this, there was no need for a rest-day next day. At C. 4 they found only Peter Diener; Vaucher, Weber and Roussi having in fact gone up that morning from C. 4 to C. 5 (24,300 ft.), taking only two days' supplies and no spare tent. (They had moved from C. 3 to C. 4 on 8th May.)
- May 10th. The five men of the Forrer group with Diener (who asked to be taken along in spite of not being fully acclimatized), taking provisions and two two-man tents from C. 4, climbed to C. 5, where Vaucher, Weber and Roussi were occupying the single two-man tent left there on the first attempt. The nine men spent the night in the three two-man tents now on the spot.
- May 11th. There was now no tent available for the Bivouac Camp (C. 6) it was proposed to pitch up above. To take a tent from C. 5 was altogether too risky, in case the attempt on the summit failed and in view of the subsequent overcrowding of C. 5 by nine men, some of them exhausted, trying to sleep in two two-man tents. A solution could be found to the problem if Vaucher Weber and Roussi, whose provisions had in any case run out, would go down to C. 4 to bring up supplies and at the same time brought

up another tent to C. 5 with them. Accordingly, they started down at 11 o'clock.

The others spent the whole day at C. 5.

On the descent to C. 4, Vaucher was suddenly overcome with violent sickness, and it was decided to go down to the North-east col. They spent the night at C. 3.

May 12th.

Vaucher, Weber and Roussi went on down from C. 3 to the col. The six-man Forrer group left C. 5 and established the proposed Bivouac Camp (C. 6) at about 25,600 ft. just below the junction of the North-east spur and the South-east ridge, where they spent a sleepless night in the single two-man tent.

May 13th.

The party started for the summit at 8 a.m. At first visibility was clear, but the cloud cover gradually thickened; there was hardly any wind at all—a perfect day by Dhaulagiri standards. The climb lay first over a sharp snow-arête, then over a bouldery ridge with a number of steps in it. Just below the highest point they came to a small summit with a narrow snow-crest. After $4\frac{1}{2}$ hours' climbing, without oxygen, the following six men reached the summit:—Albin Schelbert, followed by Diemberger and Nawang Dorje, Ernst Forrer and Nima Dorje and, a little later, Peter Diener.

Although the party stayed for some time on the summit, clouds continued to obscure what must be a stupendous panorama, which had already been fantastic from C. 6, but they were none the less overjoyed to be there. They hoisted pennants—Swiss, Austrian and various Club emblems—and thought of all the other nations and clubs whose pioneering work had played so great a part in this success of May 13th. 1960.

As a thunderstorm was approaching from the south, they started down and reached the Bivouac Camp (C. 6) at about 5 o'clock. Forrer and Schelbert went on down to C. 5.

May 14th.

The successful summit party climbed down to the North-east col. On the same day, Eiselin.



(Photo: K. Diemberger)

ERNST FORRER IN DESCENT FROM SUMMIT, YET ABOVE 26,000 FT. SHORT STOP FOR BREATHING



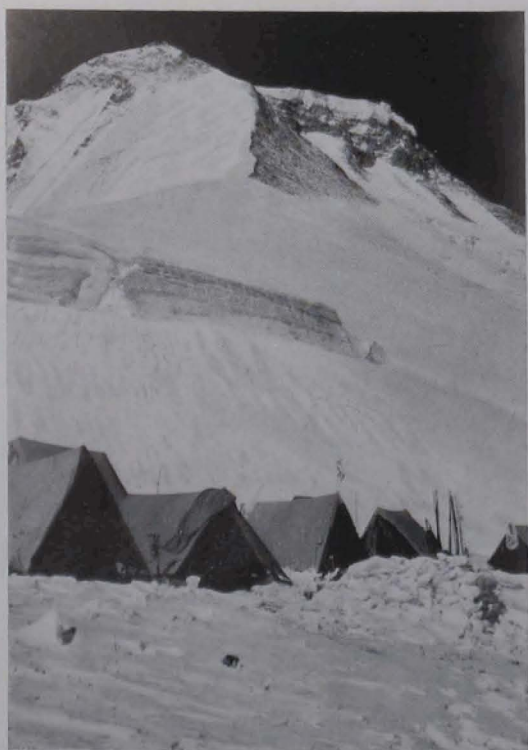
(Photo: K. Diemberger—by aid of companion)

MAY 13TH, 1960, ON SUMMIT OF DHAULAGIRI. IN THE PICTURE: KURT DIEMBERGER (WITH FLAGS) AND ALBIN SCHELBERT
(SUMMIT WAS REACHED THAT DAY BY SIX EXPEDITION MEMBERS INCLUDING TWO SHERPAS)



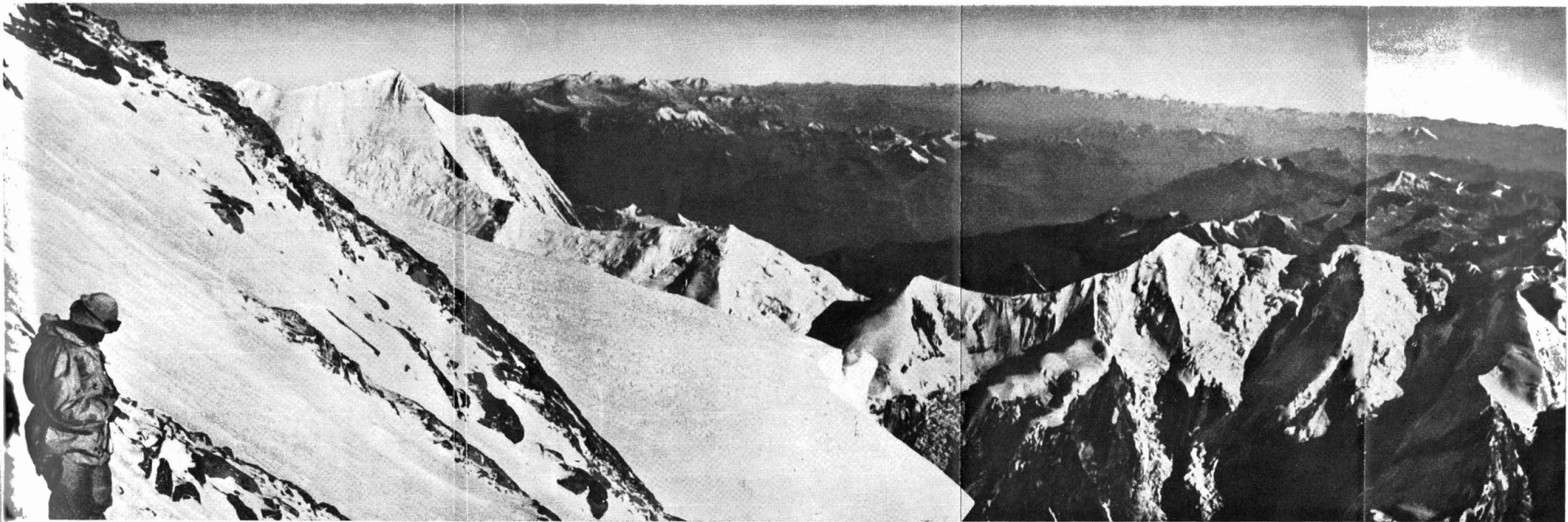
(Photo : E. Vanis, Austrian Himalayan Society)

DHAULAGIRI (26,975 FT.), THE 'WHITE MOUNTAIN' OF THE HIMALAYAS, WITH CHARACTERISTIC WEATHER. NORTH-EAST SPUR RISES IN CENTRE OF THE MOUNTAIN (COMPARE WITH SKETCH MAP 2)



(Photo : E. Vanis, Austrian Himalayan Society)

VIEW FROM THE WIDE SNOW-SADDLE OF NORTH-EAST COL UP TOWARDS THE RAPIDLY RISING NORTH-EAST SPUR



(Photo: K. Diemberger, Austrian Alpine Views)

ENORMOUS VIEW FROM CAMP 6 (c. 25,600 FT.) TOWARDS TIBET. IN LEFT CORNER: DHAULA HIMAL II. ON THE HORIZON FROM CENTRE TO THE RIGHT: FAR RANGES OF TRANS-HIMALAYA (MOUNTAINEER: SHERPA NIMA DORJE)

- Weber, Roussi, Dyhrenfurth, Hajdukiewicz and three Sherpas had climbed from the col to C. 3 (21,620 ft.). Roussi, Weber and two Sherpas remained there, the others returning to the col.
- May 15th. Vaucher and Skoczylas moved up from the col to C. 3, Roussi and Weber from C. 3 to C. 4.
- May 19th. Eiselin and Diener left the col on their way down to Pokhara. Dyhrenfurth and Hajdukiewicz moved up to C. 3. Meanwhile Weber and Roussi had reached C. 5, where Vaucher joined them; together they climbed in a strong wind to Bivouac Camp (C. 6). There they waited on the weather for a chance to tackle the summit, but all in vain, having to withdraw to C. 5 on May 21st; during the descent there was an accident, disaster being avoided owing to Vaucher's presence of mind.
- May 23rd. Making the most of a lull in the weather, Weber and Vaucher started out from C. 5 (24,300 ft.) and leap-frogging C. 6—by now they were fully acclimatized—reached the summit, a climb of nearly 2,700 ft. at 6-15 p.m. Coming down in the dark, they spent the night at C. 6—altogether a splendid performance. Roussi, who had lost his ice-axe, had had to remain miserably at C. 5.
- May 24th. The three men returned to the col.
- May 26th. They were the last to leave the col, one day after Hajdukiewicz and Dyhrenfurth, and descended to Mayangdi Base Camp (15,400 ft.). Diemberger, detached to meet the porters for the return march at the Dapa col and finding that they had not yet arrived, climbed the main summit of the 'Dapa peak' (aneroid: 19,620 ft., a mountain just north of the saddle, used by the expedition for training climbs) and returned to the saddle. During earlier attempts Schelbert and Diemberger had reached 18,700 ft. on March 31st; Vaucher and Weber 18,860 ft. on April 11th; and on April 14th Vaucher and Weber and Roussi had been turned back by darkness and cornices at a subsidiary summit only 200 ft. below the top.

- May 30th. Start from the Mayangdi Base Camp over the French col for Pokhara, with 40 porters.
- June 1st. Arrived at Tukucha.
- June 7th. Arrival at Pokhara.
- June 8th. Arrival at Kathmandu.

BIBLIOGRAPHY

- G. O. Dyhrenfurth, *Der Dritte Pol*. Munich, 1960.
- Max Eiselin, *Erfolg am Dhaulagiri*. Zurich, 1960.
- Michel Vaucher, in *Alpe, Neige, Roc*. Lausanne, 1960.
- Peter Diener, in *Die Woche*, No. 25. Switzerland, 1960.
- K. Diemberger, in *Oesterreichische Alpenzeitung* (Austrian A.C.).
- K. Diemberger, in *Jahrbuch*, 1960, des Oe. A.V. (Austrian Alpine Association).

THE ASCENT OF MASHERBRUM¹

By THOMAS F. HORNBEIN, M.D.

MAY 27, 1960: *Tea time at the Palace of the Rajah of Khapalu.* During the past four days' stroll from Skardu, 65 miles back down the road, blisters merged into one another, hips ground painfully into a monotonous groove, and the supply of mole-skin adhesive rapidly dwindled. The contrast as we sat sipping tea, sampling the curried chicken and beautifully decorated cakes, was welcome. Our conversation dwelt intermittently upon our destination, 25,660 ft. Masherbrum (K1), which lay at the northernmost portion of the Rajah's domain between the Hushe valley and the Baltoro Glacier, some 30 miles south-west of the giant of the Karakoram Range, K2. It is perhaps 110 miles on foot from Skardu up the Indus, Shyok and Hushe river valleys to the base of this splendid summit. There were several things about the mountain that had lured us half-way round the earth to attempt to climb it. Not only was it one of the relatively highest of the unclimbed, but also its complete isolation lent an appearance of great prominence: sheer and Matterhorn-like from the Baltoro Glacier, aloof in its gleaming white isolation above the villages of the Hushe valley. James Wainwright, leader of the first attempt on Masherbrum in 1938, had written, 'Masherbrum is a male mountain. By that I mean it does not throw unexpected avalanches or hidden difficulties at you.'

The Rajah informed us that from Sanskrit the name Masherbrum means 'Day of Judgment' or 'Doomsday Peak'. A most excellent name, provided one is not unduly superstitious. A twinge of nervousness was present in the laughter from at least a few of the ten of us seated about the room.

Dr. George Bell, a Los Alamos physicist, was the leader of this rather boisterous collection of ageing climbers (our average age was 29). George had been a member of the American attempt on K2 in 1953 and the International Lhotse Expedition two years later. Nick Clinch was the organizer of our journey as he had been of the successful ascent of Hidden Peak (Gasherbrum I) in 1958. He and George applied for permission to attempt Masherbrum, and when this came through in November, 1959, the 1960 American-Pakistan Karakoram Expedition threatened to become a reality.

¹ For history of previous attempts see *H.J.*, Vol. XXI, p. 16, footnote.

All that was needed was to accumulate some companions who might be easily lured away from their happy homes to test their rock-scrambling ability on the summit rocks of Masherbrum. Dr. Richard Emerson, a University of Cincinnati sociologist, contributed his considerable rock-climbing talent in return for the opportunity to observe the response of a group (including himself) to severe stress. Tom McCormack, a California rancher, was a member of the Hidden Peak trip two years before. He and Dick McGowan, at 26, were the youngest members of our party. McGowan devoted his winters to teaching school, his summers to heading the guide concession at Mount Ranier, and his spare time earning a reputation as one of the best ice climbers in the country. Willi Unsoeld brought with him not only a Ph.D. in the philosophy of religion and countless hours of pleasurable discussion, but also a wealth of mountaineering experience from the granite walls of the Tetons, Garhwal (Nilkanta) in 1949 and Makalu in 1953. As the final American member of our joint undertaking I succeeded in escaping my basic researches in high-altitude physiology for a time for the opportunity of observing in a less artificial environment. I was the expedition's physician. Our level of experience was high and the party a strong one; all but two of us had been in the Himalaya before.

Through January and February the expedition proceeded in an almost classical pattern. Equipment was ordered, and McGowan turned his living room into a wand factory, making enough marker flags to enable us to travel almost blind from bottom to top of our mountain. Medical contributions, poured in through the generosity of many, were packed into sixty-pound loads; and were cast off into the world at the end of February, not to be seen again for almost three months. Perhaps the only atypical aspect at this stage was the relative smoothness with which things progressed thanks to Nick's amazing organizational abilities. Then for two months there was calm, a period when one could contemplate the physical sacrifices necessary to restore a state of near fitness for the effort to come; a time of immunizations superimposed on prior immunizations, of other medically conceived tortures going under the name of scientific investigation; when families could contemplate the impending departure of their breadwinner and ponder whether this was an escape 'from' or 'to' . . .

While many members of the American Alpine Club were equally engrossed in getting us to the port on time, on the other side of the world our other sponsor, the Sports Control Committee of the Pakistan Army, was busily ironing out problems of our smooth

entry into their country and rapid passage northward from Karachi to Skardu. Also the Pakistan portion of our joint climbing team took shape and we were joined by Captains Imtiaz Azim, Mohd. Akram Qureshi and Jawed Ahkter Khan. To Imti and Quresh the Himalayas were a new experience, but they were both to contribute invaluablely to the solution of many entangling problems as well as becoming enthusiastic beasts of burden along with the rest of us once the need for brain could be replaced by brawn. Javee had been with the British-Pak Forces Expedition the previous year. He was thin and wiry and only his determination exceeded his endurance.

The farewell gathering at the American Alpine Club in New York on May 7 was followed a few days later by a similar, though perhaps more lavish, affair in Zurich. The hospitality of the Swiss Foundation for Alpine Research, which had packed our food, supplied our oxygen and performed countless other invaluable services, was overwhelming.

On May 12 Karachi greeted us with a blast of hot dry air and a chance to put our skills against a few of the classical problems that afflict all Himalayan expeditions. In our case it was a late boat, not unloaded; various other items if not 'lost, stolen, or strayed' at least seemed to have been 'mis-laid' at the wharf. All this provided us with countless hours of futile contemplation in our one air-conditioned room at the Hotel Metropole. In the end our expedition motto (When in danger or in doubt, run in circles, scream and shout), pulled us through and we were ultimately northward bound, supplies and all, by the Khyber Mail.

At Rawalpindi we were met by Nick (who had preceded us to avoid all those problems that crept in behind him) and Imti, both the picture of confident disorganization. We were delivered to the hospitality of Eric and Bill Goodwin in a home which invited relaxation in an atmosphere that clung to the memories of the North-West Frontier, the tales of Kipling and Jim Corbett. Our evenings, while waiting for a break in the weather to permit our flight to Skardu, were spent in listening to classical recordings, the piano, or more commonly conversation long into the night. On the morning of May 19, we finally boarded a P.I.A. DC-3 for the slow, ridge-skinning climb to 16,000 ft., past the glittering face of Nanga Parbat then down into the Indus gorge and Skardu; literally a breath-taking prelude.

We were in Skardu for four days, repacking equipment into sixty-pound loads, sorting and discarding extra clothing and attempting to contend with such last-minute emergencies as an

unexpected increase in the daily pay requirement for the 150 porters, we were to need to transport our bulky procession to Base Camp. Our team of six HAPs (High Altitude Porters) greeted us here; to many they were old friends. Ghulam Rasul, our sirdar, Qasim, Abdul Rahim and Rahim Khan had been with Nick and Tom McCormack on Hidden Peak; Hussein and Mohammed Hussein were simultaneously serving the Italians on Gasherbrum IV. Mohammed Hussein embraced George Bell as a long lost friend, and indeed he was, for he had carried George out from K2 on his back seven years ago when George's feet were badly frostbitten. We watched the afternoon dust storms sweep the great plain of the Indus valley, hoping for a break in the weather before we were ready to march. We dined with the Political Agent and early the following morning, May 23, we set out eastward along the Indus River. The marches were long, hot and dry between villages. On the second day we crawled beneath the bridge over the Indus River to seek out the only shade for sixteen miles, there to repatch blisters. Each night a village, sick call, and wearily to rest: Gol, Gwari, Khurpak and finally Khapalu, a village of about 9,000 people, lush terraced fields, and the constant rumble of falling water. Certain episodes stand out vividly: baths in the Shyok at Khurpak; my private consultation with the dancing girl of Khapalu; and the rather uncontrolled, yak-trampling descent from the Rajah's Palace on his polo ponies following tea.

May 28: Khane. We crossed the Shyok early to rejoin our supplies. The river was small and relatively placid and the three small goat-skin *zaks* scurried back and forth with only brief pauses to re-inflate. The peaks were shrouded in cloud, providing a welcome lack of warmth as we started up the Hushe valley. Here camp was made, a bloated goat bargained for, the water filter set up for its evening task of removing dirt, bacteria and amoebic cysts from our drinking water. A five-minute walk up the hill and there, framed at the head of the valley, towered the object of our adventure, rising over 15,000 ft. above our heads, gleaming cold and unwelcome in the last light of day. We could do no more than stare in silence, as men have often done at their meetings with a mountain. The light left and soon darkness came.

May 29: Hushe, 10,000 ft. We slept in the open, a perfectly clear night; Masherbrum glistening indistinctly in the moonlight.

June 1: Base Camp, 13,500 ft. It is a big mountain, even as Himalayan peaks go. The summit is over 12,000 ft. above us here at the junction of the Serac Glacier and the Masherbrum Glacier. It looks foreshortened and closer than is reasonable to hope.

snow streamers blow from the summits into the blue-blackness of a cloudless sky. Yesterday was preparation: more repacking, lessons in operation of the oxygen apparatus which we intend to use for the summit assault, the emergency care of sudden pneumonia; blood-letting to quench the voracious appetite of the investigator in our midst. Today we learned a lesson. Willi, McGowan, Javee and I wandered rat-like through the maze of the icefall to locate a safe site for Camp I at about 15,500. On the return to Base we took two different routes. Before reaching bottom we found ourselves floundering waist-deep in the sun-softened snow, totally sapped by the oven-like heat in the windless hollows of the icefall. For the lower part of the mountain, at least, we must plan to start with the first light of day and be back in camp by 10 a.m. Also Scaly Alley, the relatively uncrevassed chute beneath the cliffs along the right edge of the icefall, should provide a faster and more direct route.

June 6: Camp I, 15,500 ft. Sheltered from the heat of the afternoon sun, lying inside our Himalayan tent. Cloudless weather has its disadvantages! But it has permitted excellent progress. Base Camp was abandoned five days after having reached it, and now over a ton and a half of supplies are at 15,500 ft. or above. This is a result of our 'Pyramid People Plan' to get Advanced Base established on top of the Dome as fast as possible. Fifteen Hushe men with shoes scraped up from the ancient past have joined the six H&Bs and ten Sahibs for the daily journeys from Base to I, and six of the sturdiest have been furnished crampons to continue the carry to II and hopefully III.

This morning Willi, McGowan and Javee left their tent at 18,500 ft. to attempt to plough a route up the long, steep slope to the top of the Dome. Their start was late, and as George and I came across the top of the upper icefall they seemed to be bogged down in the very delicate task of cutting steps up a 60-70 degree ice-slope in the middle of what appeared to be a potential avalanche gully. Some time after they broke loose on to the open slopes above, a small serac broke off and plummeted down the gully, passing over their recent tracks. George and I watched fascinated from the slope just below Camp II until suddenly a few stray missiles whirringly intersected the space between us. We hastily took off towards the left while the party coming up from below stared spell-bound at our sudden increase in vigour. When the others finally rejoined us at II, it was decided to move the camp to a more open spot higher on the Dome face, in spite of the fact that this made the vertical distances from I to II a 3,500 ft. climb.

June 12: Camp II, 19,000 ft. From my diary: 'Several inches new snow last night. Hushe-wallahs won't go to III so Nick and Qureshi will take them to Base today and pay them off. Snowing and poor visibility. ? whether we shall be able to go to III today. Also one HAP, Hussein, sick and must watch him closely. Still, all in all, we go good and three more days should finish Advanced Base.'

June 18: Camp III (Advanced Base), 21,000 ft. 'After ten beautiful, sun-broiled days to the 10th of June, we have been buffeted almost continuously by wind, cold and snow. Temperatures at night are ten degrees below zero Fahrenheit. Our tents are nearly obscured by the virtually continuous fall of snow; about five feet of it in the last few days. Still, technically the going is easy, and with the routes well marked with McGowan's wands we have been forced to sit out only one day because of weather.' Willi and McGowan moved to IV yesterday to flag a long, gentle route to a site just below the east ridge at 23,000 ft. today. The six HAPs are carrying mightily; only the Sahibs' ranks seem temporarily decimated: Tom McCormack and Dick Emerson at Base recovering from persistent sinusitis; Javee immobilized by snow-blindness; Imti slow to adapt to 21,000 ft.; and Quresh suffering a traumatic arthritis of the knees that was eventually to prevent him from going high.

June 20: Camp IV, 22,000 ft. A good day as days go now. Nick, Javee, George and I moved up to join Willi and Dick McGowan, enjoying in the process a clear view of tier on tier of the most rugged range of mountains in the world: I, II, Saltoro Kangri, the four Gasherbrums. The summit of Masherbrum, four thousand feet above our heads, looks very inviting. Optimism is high and an afternoon conference in Willi and Dick's tent has yielded the following plan: Tomorrow we'll all (six Sahibs, four HAPs) carry heavy to put in V; the following day Willi and Dick McGowan shall open the way to VI mid-way up the south-east face and beyond the end of the ice-wall that now almost transects the entire slope. Nick will see them settled there and then return with the four HAPs to V. We shall try to omit a seventh camp by using oxygen from 24,000 ft. George and I shall follow one day later as support for the summit team and for a second assault should it be necessary.

June 24: Camp VI, 24,000 ft. 'We are 1,500 ft. from the summit, can look almost straight up to the snow gully between the tops. Looks so close, especially when contrasted to the hazy depths of the Hushe valley from whence we came, or even the very (line

spots that mark Camp IV directly below. But looking at it from a climbing point of view it seems a long way off—all the technical difficulties lie ahead.'

Today we had planned to open a track to the couloir at 25,000 ft.; tomorrow to try for the summit. Accordingly George and I rose early to a clear but unsettled day, descending the slopes below VI to procure all the fixed ropes that had been placed there. In relay manner Willi and Dick were to then take the line up and fix it to the glassy slopes above. But by the time we returned to camp the stagnant heat had sapped all ambition from the four of us and we were content to lay sweltering in the 102° F. temperature of our tents until the mid-morning snowfall began to make us uncomfortably cool.

June 25: Camp VI. Willi and Dick left at 3 a.m. for the summit, with oxygen. Two hours later George and I finished our morning cup of Ovosport and set off in their tracks, rather heavily laden with a thousand feet of manila line, aluminium pickets and ice screws with which to fix the route from 25,000 ft. down the very steep slopes to VI. This had been McGowan's idea to contribute a small bit of safety to the steep (variously stated as 40° to 70°, probably somewhere mid-way between), heavily snow-laden slopes down which they must return from the summit either late tonight or tomorrow morning. Also this would provide invaluable assistance should a higher camp prove necessary. The day dawned suspiciously cloudy, but Willi and Dick were on their way so we set out after them. We passed their headlights, cached beneath an ice-wall, and after a time virtually overtook them, primarily because of the prodigious effort involved in breaking trail through 50° waist-deep snow. The oxygen valves did not seem to function properly. Snow began to fall; Willi and Dick faded to near invisibility through an eerie yellow-white haze, though we could hear the sound of their conversation. We saw them begin the traverse towards the couloir at 25,000 ft.; then we turned to begin our rope-fixing descent.

We reached VI about mid-afternoon. We were now twenty-five days out of Base, moving fast and perhaps wearing a little thin. Our hopes were strong for the success of the two above, though the thought of their being forced to bivouac in such unpleasant weather caused us deep concern. We thought often we heard voices. Supper sat bubbling on the stove: Knorr mushroom soup, with sliced tongue, thickened to a glue-like consistency with dehydrated potato

Towards evening there was a shout carried by the wind; and half an hour later out of the snowing invisibility around the corner of the ice tower that sheltered our tents came Dick and Willi. Dick was breathing like a steam engine, face coated thick with frozen rime, having shortly before been engulfed by a small powder-snow avalanche as Willi secured him from above; and soon thereafter walking off the edge of a cliff in the flat featureless light, to enjoy once again the reassuring support of Willi's ever-faithful belay. They had traversed nearly to the bottom of the final couloir, only to decide that time had run out, much as the weather had done hours before. They cached pitons and other hardware in the schrund beside the couloir and turned down.

June 26: Camp VI. A planned day of rest, continuous snow. It was now apparent that it is too far from VI to the summit, especially with an unbroken track. We must put two men into a small Camp VII in the schrund beneath the couloir; now that oxygen and hardware were already there this could be easily managed by the four of us carrying twenty-pound loads. All we needed was weather: two good days to the summit. Food and gas were running low. Was deterioration a serious problem at 24,000 ft.? By the end of the day we all felt much stronger. Tomorrow we must go, either up or down.

June 27. At 5 a.m. the sky was totally clear. By nine snow was falling through a warm, bright fog. George gazed frequently out to the distant peaks—Gasherbrum, Chogolisa—as one by one they became bundled in multiple layers of ominous cloud. He warned that we had best be out and down before we were caught in a real Himalayan storm. But we waited, reluctant to surrender so near our goal; then at about 11 a.m. slowly made ready to descend. By the time packs were loaded and crampons strapped on it was no longer a gentle snowfall but a vigorous wind-whipped blizzard into which we plunged. Our first few steps from camp suddenly brought full realization of the depth of new snow that had piled up on this steep face in the last two days. Thanks to the closely placed wands we made good speed in our flight towards V.

Then our progress was halted; a flag was missing. We traversed blindly, diagonally across the slope: Willi first and lowest, then McGowan, George and myself highest and farthest out in the gully; seeing nothing in the flat whiteness except the indistinct outline of each other; not really lost—just confused. A small slide began running about my legs, not alarming; but then with an incomprehensible suddenness it was over my head. With that I was ripped from my stance and carried with rapidly increasing speed

downwards by an incredibly powerful, yet gentle force, enjoying that strange fatalism of thought that we really hadn't done too well on this mountain. One's breath-holding time is not great at this altitude and soon I was forced to a deep inspiration of cold, wet snow. For all the discomfort I determined to do better on the next breath and by the time it was ready to burst forth I found myself suddenly and uncomfortably immobile, upside down, well pinned by my pack, staring into a whiteness of snow-filled goggles and failing miserably at all efforts to pant, cough and extricate myself. From above came Willi's yell: 'George', and an answer, 'Dick', and George answered for him as he lay on the slope just below, 'Tom'. For a moment I struggled for the extra wind necessary to make a reply, then came out with an irrational 'I'm great'. Instead of being top man on the rope I was now several hundred feet down. Dick was lying eighty feet above, gasping for air; George had managed a self-arrest somehow; and Willi, highest on the slope now and closest to the edge of the avalanche, had driven his axe into the snow to bring himself and McGowan to a halt. So here we clung, untangling ourselves, as our antagonist continued its merry way down over the ice-cliffs below.

Suddenly Willi shouted, 'Dick's pack: catch it!' I saw it rolling down the slope some feet to my left and, still totally breathless, reflexedly shot three steps to the left, reached out, and snatched it by a loop of rope hanging from under the flap. Then George called that Dick was having trouble breathing and I must hurry to come up. I plunged into the snow with help from the rope from George, yet it was amazing how inadequate were my movements to my will. Dick had apparently inhaled considerable snow and was now in a state of near shock, coughing so continuously that there was scarcely time for inspiration between coughs. He complained of severe pain in his chest. Willi ploughed out a trough to the shelter of the ice-cliff we had been groping for originally, and we moved Dick over there with some codiene for his pain. The snow had almost magically ceased and a small hole of blue sky hovered over our heads for perhaps a half an hour before the storm took possession once again. During this break we undertook the laborious job of descending to V where Javee and Nick had heard our shouts and were valiantly trying the almost hopeless task of opening a track uphill to us. As the snow began to fall again we reached the tents of V, carried Dick inside and got him bedded down. Willi and George continued down to III as there was virtually no food remaining here. I climbed into the tent with Dick to examine him thoroughly and shoot him full of antibiotics as prophylaxis against

pneumonia. He was very uncomfortable and intermittently delirious. During the night the wind rose to shake and rattle the tent alarmingly; Dick suddenly woke thinking he was in another avalanche. I lit the stove and heated some tea, but it took quite a time to convince him all was well and that he was safe in a tent at Camp V.

June 28. 'Sitting here with Dick in our Logan at V, I can see our hopes travelling up and down with the weather. We still want the summit badly, but our experience yesterday has taken a bit of starch out of our sails, and the feeling is superstitiously that somehow we are not welcome on "Doomsday Mountain". If we get a break in the weather of four or five days, we'll climb it.' That afternoon Dick Emerson came up from IV and we took McGowan down to Advanced Base to recover.

July 1: *Advanced Base, 21,000 ft.* The wind rose at night to a tent-shaking pitch, Dick and I comfortably warm in our down sleeping bags. Tea simmering on the butagas stove. I was deeply entrenched in *Doctor Zhivago*. Dick searched the short wave for a piano concerto from the B.B.C. after finishing the evening news from Radio Pakistan: 'And now the special weather report for the Pak-American Expedition to Masherbrum. Weather fair with a chance of some snow flurries. Wind thirty knots and temperature 26° F. at 18,000 feet (they were a bit behind us, or we ahead of them). This weather report is valid until 1700 tomorrow.' Our existence, as Dick recovered strength from his ordeal with the avalanche, contrasted sharply with the wind-swept plateau outside.

There was contrast, too, to the waiting of the six above us on the mountain. June 29 was fair and Willi, George and Javee, with but a single day of rest, returned to IV, then on to V with Nick, Dick Emerson and Tom McCormack. For several days now they had waited it out there, hoping for a change in the weather. Food was running low; they had been on half rations during this period of enforced inactivity.

July 2: *Advanced Base.* Some blue sky but the mountain was still shrouded. Qasim and Mohammed Hussein are off to V with food. Dick and I took a walk along the ridge and watched Imti and Quresh descending the Dome face on their way to Base for rest. Suddenly there was a loud crack as the sound of a very distant explosion and we looked up to see the billowing cloud of a huge ice avalanche which had just swept the south-east face of Masherbrum. Was anybody out there today? In the early afternoon the two HAPs returned from above, having left their loads at IV, seeing no one. We were still worried. They could not possibly have

gone above V in the weather of the last few days. Tomorrow we must go up to V and see that all are well.

July 3: Advanced Base. Much new snow and a very high wind. The HAPs are just beginning to move at 10 a.m. Mohammed Hussein stays abed with complaint of a severe headache. Rahim Khan entered our tent with severe back pain; he would be unable to carry. Qasim's feet pained. Only Rasul and Abdul Rahim suffered nothing except lack of enthusiasm. Nothing for it but to hope tomorrow is better.

Towards nightfall the clouds lifted from the basin above IV. In the last light we could see one—or was it two?—descend the slope from V.

July 4. A cloudless sky; activity everywhere. At III Dick and I rose to eat and found our five HAPs totally recovered. They had lashed their loads and were waiting impatiently to be off. We crawled into our bulky loads and started slowly in their tracks. Slow as we went, Rasul seemed determined we must have our share of trail breaking; thus we rejoined the HAPs for a long pause and observed a lone figure coming toward us from the slopes below Camp IV. McErmack soon joined us with eagerly awaited news. Four of them had come down to IV the previous evening as food was nearly gone. All six planned on returning to III today if the weather remained poor. But, with the sudden change, Willi and George were already reopening the path from V to VI while Dick Emerson and Javee were off from IV to join them that same day at VI. Nick was waiting for us at IV. After attempting to place a temporary fillet in the gap left by a large gold inlay in Mac's tooth, we tramped slowly on to IV, snacked with Nick, and the three of us strolled leisurely, chatting as we walked, on to V. Emerson and Javee were just leaving V for VI. George and Willi were almost straight above us, sinking deeply in as they finished the climb to VI. We reached Camp V about 6 p.m. along with the evening cold, said good-bye to the HAPs who had just completed a superb carry. It must have been a heartening sight to Willi and George to look down on all this flurry of upward activity and all the supplies it must represent. The evening of the 4th of July was crisp and clear with a promise of more good weather.

July 5: Camp V, 23,000 ft. We spent the day in camp, according to plan, and watched the exceedingly slow but persistent progress of the four on the wall above VI. How much had it changed? Was it safe? As the afternoon passed and the sun left the slope, we found it hard to imagine that Dick and Javee could leave Willi and George at VII and still be able to return to VI before dark.

The weather looked unsettled to the south with a cap over the summit of Chogolisa. As night came on we saw Dick and Javee reach the end of the fixed line just above VI. So now Willi and George were camped in a tent just six hundred feet below the summit of Masherbrum. Tomorrow, Inshalla, was the day!

July 6. McGowan, Clinch and I left Camp V at 5.30 a.m., headed upward. Fifteen hours later McGowan and I sat outside this same tent in the brilliant moonlight of a warm Himalayan night, almost too exhausted to remove crampons and crawl inside for food. Between, a lot transpired.

As we climbed rapidly toward VI in the brilliant early morning sun we caught sight of two tiny figures entering the bottom of the couloir high above; the upper one was stationary, the other moved up with surprising speed to join him. So Willi and George were off. We reached VI about 9 a.m. in time for a second breakfast which Dick Emerson was preparing. I was surprised that both Javee and Dick looked so fresh after the long labour of the day before. It was decided that McGowan and I, with the benefit of a week's rest at III, should continue up to VII as support for Willi and George, and to make a second attempt on the summit should it be necessary. Javee was to accompany us to VII to become a part of a second ascent party tomorrow if all went well today. Nick and Dick Emerson would go it from VI with oxygen and a very early start. It had long ago been decided that once the mountain was climbed one of our next objectives was to have one of our Pakistani members reach the top, if at all possible. So we three were to go to VII and Willi and George were expected to make it back to VI this same day.

About 11 a.m. we started from VI; the sky had become hazy now. To our surprise the climb was as much an effort as always, for most of the steps had become solidly drifted with snow since Dick and Javee descended the evening before. After a time we broke out on to the open slopes below the traverse to VII, and with this reopening of the view above we searched for signs of our summit party. Dick McGowan began to slow, admitting to severe stomach cramps. We continued on, hoping this touch of 'indigestion' would pass. About 1 p.m. a tiny figure appeared against the skyline at the top of the couloir, then another; they had made it up the snow in slightly under eight hours. George and Willi were now higher on Masherbrum than anyone had been before. Between them and the summit lay a gentle but narrow snow ridge blocked by two rock steps. As we moved slowly upward, one at a time, we watched them travel rapidly along the ridge, hidden from

view for a time then reappearing beyond the first step. Our upward progress seemed to stop as we followed the unfolding of the final chapter high against the sky. For a long time they seemed to sit immobile at the base of the second step, a granite wall about fifty feet high, vertical along the ridge, quite as steep on this side. Then suddenly they were there, first one, then the other atop the final step! Two almost imperceptible spots against an intense blue-black sky, moving rapidly along the crest towards the summit. Exultant, I yelled at the top of my voice, 'Shabash! Shabash!'—about the only bit of Balti I had mastered. And surprisingly, from high above, came the faint but unmistakable reverberation of Willi's triumphant reply. So the mountain was climbed. Weeks of labour and waiting had been all for this one moment, which we three were privileged to witness as an audience perched on the slopes below.

But the joy was short-lived. Dick's distress was steadily becoming worse. Another disturbing thought entered our minds: it was now nearly four in the afternoon. Willi and George could not possibly make it to VI today. It might be a trifle crowded with five squeezed into a single two-man tent, precariously hung on the lip of a rotten schrund; but perhaps it could be done for a single night. We stopped to lighten Dick's load, rest, nibble some chocolate. Javee started diagonally up beside the fixed line, the rope between him and Dick hanging in a long loop down the face. As Javee started off Dick suddenly began retching and shaking. It seemed, alas, time to head downward. I yelled at Javee who reluctantly turned to descend. I was totally absorbed in Dick's difficulties; hence Javee was not on hand, but the entire slope was well protected by the fixed line. Dick, watching Javee, suddenly shouted, 'You had better get him in belay, Tom.' Then, 'He's going to fall!' which he promptly did. Clutching desperately for the fixed line and missing, Javee was off down the slope, head over heels in ever-accelerating bounds. Time seemed to stand still as we paused to ponder the consequences. Dick sank his axe deep into the bottomless snow while I, closest to Javee, wrapped one arm many times about the fixed rope and the other about the top end of the line to Javee, a rather unorthodox approach to belaying; I was determined that nothing short of avulsion of a shoulder would part my contact with the mountainside. Javee took one last huge bound and while still in mid-air slammed into the end of the rope—a most undynamic belay. The rope stretched, my arms stretched, and I shudder to think what was happening to Javee as he was suddenly plunged head downward into the snow 120 feet below us, much like a huge fish as the hook is suddenly sunk home. He lay there inert for a time as Dick yelled at him and I lay pinned to the slope by the

spread-eagling tautness of the rope. Then slowly he began to stir, to unwind and untangle himself and finally resume an upright position with a weak reply, 'I'm all right'. The remainder of the descent proceeded at a painstakingly slow, ultra-cautious pace to VI, where we stumbled into the tent with Nick and Dick Emerson. It was decided that Javee would remain here to rest while McGowan and I started wearily on our way back to V. Looking up once again to the couloir we could see two small dots, almost where we had first spotted them fourteen hours earlier, almost back to VII. We were too tired to yell, exhausted by the excessive degree of caution brought on by exhaustion.

July 7: Camp V. Another one of those very clear days. To the south clouds seemed to be slowly piling up, a little more each day. McGowan was tired and very weak. From this time on we became only an audience to the scenes being enacted on the gigantic stage high above. We watched in envious fascination as Nick, Javee and Dick Emerson came into view on the fixed ropes above VI, going up. About 3.30 p.m., as the face fell into shade, two climbers appeared from along the schrund by VII and began to descend the fixed line. The five met a short distance above the site of Javee's tumble yesterday. Through binoculars we could make out only vague silhouettes. Willi and George continued down to VI, the other three toward VII.

July 8: Camp V. '4 p.m. Just put on the Knorr vegetable soup for supper. Dick McGowan does poorly and tomorrow if all's well above, we'll head down to III. Heard a shout about half hour ago—from the summit?... 4.45. Willi and George coming in. More soup! Didn't expect them until tomorrow.' We were surprised to see them down from VI while the others were still above, but as soon as George came into the tent the reason was apparent. Their story:

A rather sleepless night (July 5) at VII with the tent pitched eerily on the edge of a rotten schrund, one side at a rather unpleasant angle; ice and snow falling from above on to the tent, creating a sliding sound as if the entire structure, occupants and all, were just taking off down the face. They started at 2 a.m. for the summit. The snow in the couloir went, but that is all one could say; relentlessly steep, varying from ice to unconsolidated waist-deep powder. To the left they caught sight of the line which Whillans had left hanging from the cliffs three years ago. Safeguarding the ascent with rappel pickets, they eventually reached and circumnavigated a small cornice at the crest, cut two tiny buckets in the knife-edged ridge to sit and eat some chocolate. It

was noon. Behind their backs the face dropped spectacularly to the Baltoro Glacier. The biting wind was a contrast to the heat of the couloir. Beyond was a small step of rotten rock held together only by its perpetually frozen state. An ice screw sufficed for safety. Then they were on the second, higher step. This was solid; a chimney splitting the eastern wall; a place part-way up where they could sit, packs on laps, out of the wind for a time to eat lunch. From there a few hundred yards of almost level snow ridge—Willi said he could have run it—and the summit before 4 p.m. A spectacular view of the immense Baltoro Glacier, rubble-covered. The Mustagh Tower was almost unidentifiable below. K2, of course, dominated the scene, magnificent and huge. After an hour they turned down. The descent was characterized by several rappels, one where the rope stuck and Willi frustratedly had to climb back to free it. Down the couloir, and finally into the tent about 8 p.m.

That night George's cough became much worse. He began to wheeze and gasp for breath, incoherently humming nonsense tunes to himself. About 10 p.m. Willi brewed some hot chocolate, then proceeded to throw the emergency kit at him: Digoxin, diuretic, Erythromycin, Tobromycin. With all that George dozed sporadically and by 3 p.m. on the 7th was sufficiently improved to make the trip to VI, passing the ascending trio on the way. Another full day of rest and finally late this afternoon they decided to come down to V so I could look at George. He had a severe laryngitis, a deep rattling cough, and definite areas of dullness and moist râles in both lungs—a splotchy but moderately severe bronchopneumonia. We washed them and dined them and made plans to send George and Don McGowan down on the morrow. The indomitable Unsoeld and I would remain to protect the flank of the three above.

July 9: Camp V. 'The weather was deteriorating daily. Whatever is coming has been building up slowly, day by day, but it should be quite a blow when it arrives. No snow yet and the face is still O.K.' George and McGowan hung on until early afternoon. Since Willi and George had seen someone at VII yesterday afternoon, we felt their summit attempt had failed and they should soon be coming down to VI. Finally George and McGowan left with plans to signal by flashlight from III that evening if there was any news. Alone, Willi and I worried; what could be holding them up? Was someone sick? As the afternoon passed we gorged on chocolate 'ice cream', talked of many things. Willi blasted the stillness with periodic whoops that should have been audible on the Baltoro, but no answer came. McGowan and Bell went down to IV. Then, too late to be an echo, a faint but distinct shout from

high above! Willi and I embraced each other ecstatically; they were there! The pressure was off. We began supper: Leek soup, a can of roast beef. About 5.30 p.m. we were preparing to crawl into our bags. Willi took one more look at the face: three figures were slowly descending the snow below VII. The first man seemed to slip or lie down often then be up again along the fixed ropes. The sun was gone from the face but still shone on Serac Peak across the valley, and on two tiny figures just descending from its summit; so McCormack and Abdul Rahim had finally ascended this tantalizing knoll that sat so near Advanced Base. We crawled into our bags happy. As it became dark we suddenly heard the clear shout of Emerson's voice, 'I have you both on my belay.' Tired as they were, there was no doubt they would soon be safely settled at VI. At 8 p.m. I signalled George at III: All's well. We talked late and finally slept.

July 10 : Camp V. I woke at 4 a.m., Cheyne-Stoking vigorously. Willi, asleep, was doing the same. Crawling out into the moonlight I dug out a tank of oxygen, brought it into the tent and returned to my bag. My pulse was 100, breathing irregular. Turning on a flow of oxygen, my breathing returned instantly to normal and before I could count my pulse again I had fallen asleep. I woke again four hours later. Willi had hot water. We ate apple-flakes, hot-buttered toast, melted cheese. The weather had changed, completely socked in, snowing slightly. We waited until eleven for the three to come down from VI. Snow increasing. As we were preparing to go up, out of the snow from below appeared Rasul and Abdul Rahim, embracing us as long lost friends. With their happy smiles to bolster our morale we set out into the vigorous snowfall, going steadily without pause to rest. In an hour and a half we were level with VI just as they were leaving. First Javee, stumbling wearily as we had seen him do the evening before; then Nick, also having trouble walking, and finally Dick Emerson with a snug hold on the rope. By the time they joined us the blizzard was whistling merrily about our ears, palling only slightly to the competition of Willi's harmonica playing 'Massa's in de cold, cold ground'. We took Nick and Javee's packs, put Clinch between us and dropped off into the blind invisibility, measuring rope lengths like an inch worm, to the point of hasty, nervous traverse across our old avalanche slope. At 4 p.m. we were all at V, safe at last. Quite a blizzard and some small snow slides on the way down, but nothing big this time; another hour and we might have found things less pleasant.

Nick, totally bedraggled, was nevertheless not at a loss for words, and as we finished the mushroom soup and the wind shook the tent furiously we heard his tale of the second ascent of Masherbrum: When they finally reached VII on the evening of the 7th and climbed into the tent all were tired. No one started supper. Awakening about 2.30 the next morning, they began heating soup. Suddenly one of the small bivouac stoves caught fire and this quickly spread to the tent liner. George Bell's down-pants were sacrificed to the cause of extinguishing it, after which all three went back to bed, their water having been thrown on the fire. At 7.30 Emerson was suffering an upset stomach and decided to remain in camp. Nick and Javee started the trek to the summit themselves. Using oxygen as far as the ridge, Nick and Javee, taking turns at leading, climbed up the couloir and along the ridge to the summit at 6.30 p.m. for some inspiring sunset views of the Karakoram. They spent fifteen minutes on top. During a rappel on the descent, Javee lost his right down-mitten. Another rappel jammed, resulting in considerable loss of time as well as rope. After dark they started down the couloir, but without the long rappel line George and Willi had carried they were forced to cut an intermediate ice-bollard. Fortunately there was a moon and the night was warm. They reached the tent at 7.30 a.m., twenty-four hours after starting, and collapsed in the capable hands of Dick Emerson who had spent a lonely fitful night in wait. Nick was totally fatigued and Javee, with the loss of a mitten, had his right hand frostbitten and the soles of both feet from the long periods of immobility in the couloir. Late that day they descended to VI, cooked until 11 a.m., and in spite of the increasing threat of avalanches lingered there until we came upon them early in the afternoon.

The shaking of the tent by the wind was now supplemented by that of Rasul who was eager to get things moving if we were to reach III by dawn. It was necessary to evict Nick almost bodily into the raging storm. Willi and I lingered to help the HAPs pack the tents. Together we turned our backs on the debris and residue soon to be buried deep beneath many layers of snow. It was a strange retreat, for retreat it certainly was, and we realized perhaps more fully than ever its finality. At the end of this last snow-blown day, as the flat whiteness faded to flat grey, we strove to grasp the significance of our adventure. Certainly the mountain was not altered by having been climbed, and the rate at which it was obliterating any trace of our transient occupancy was humbling to behold. Perception was keyed to hold each impression as we tried to

fill our memories to the brim with things that would give meaning to this experience during the months and years to come. So there was a certain sadness as we stumbled downwards through the storm and darkness to the near desolation of Advanced Base ; little food, gas nearly gone, only mail to stimulate the rapidly growing ties to home. Snow fell and the blizzard continued through the night.

July 13 : Base Camp, 13,500 ft. All safe at Base, recovering from fatigue and hunger. The descent of the Dome had been an uneasy labour through deep wet snow with the roar of avalanches all about us. The icefall was transformed from the slumbering giant of six weeks before; the giant had come alive. Javee, McCormack and I arrived after dark on July 11; Emerson, Unsoeld and Clinch appeared the following night. The HAPs, alone, were back from a round trip to II with the final loads. Danger was all behind us now. Our six HAPs had done a truly fantastic job, carrying in even the worst weather, with almost none of the 'sickness' that seems so prevalent in the annals of Himalayan history. They have become competent mountaineers as well as cheerful companions. On this expedition we were privileged to see them 'come of age' by the standards of the Sherpas of the eastern Himalaya. To extol their contribution to our success is almost superfluous: without them Masherbrum would not have been climbed.

July 20 : Skardu (exactly two months later). The journey is a series of isolated remembrances: Javee's painful walk down the Masherbrum Glacier to a waiting horse; the happy faces of the villagers who constantly greeted us 'Masherbrum finish'; each painful evening after we had broken our daily vows never to overeat again: goat, chickens, ripe apricots. Our senses seemed sharpened to savour each new experience. We were fascinated by the unaccustomed green of trees and the yellow of wheat ripened in the terraced fields, the multitude of tiny purple orchids colouring the meadows at Hushe. At Khane on July 16 we had our last look at Masherbrum, veiled voluptuously in clouds but no longer a thing to whet our appetites for the unknown. The *zaski* ride across the Shyok was of a different order this time, a madly seething river nearly a mile wide. We all survived this final hazard, to be suddenly overwhelmed by the happy greetings at Khapalu, the garlands of flower rings, the 'Hip, hip, hooray!' which the Balti school children had so carefully practised, a banquet at the Rajah's Palace, and a final night's lodging at the home of the headmaster. Most of all I remember standing at the edge of the Shyok that final evening at Khapalu, watching the river rush endlessly beneath my feet, hearing the 'bump, bump' of boulders bounding inexorably

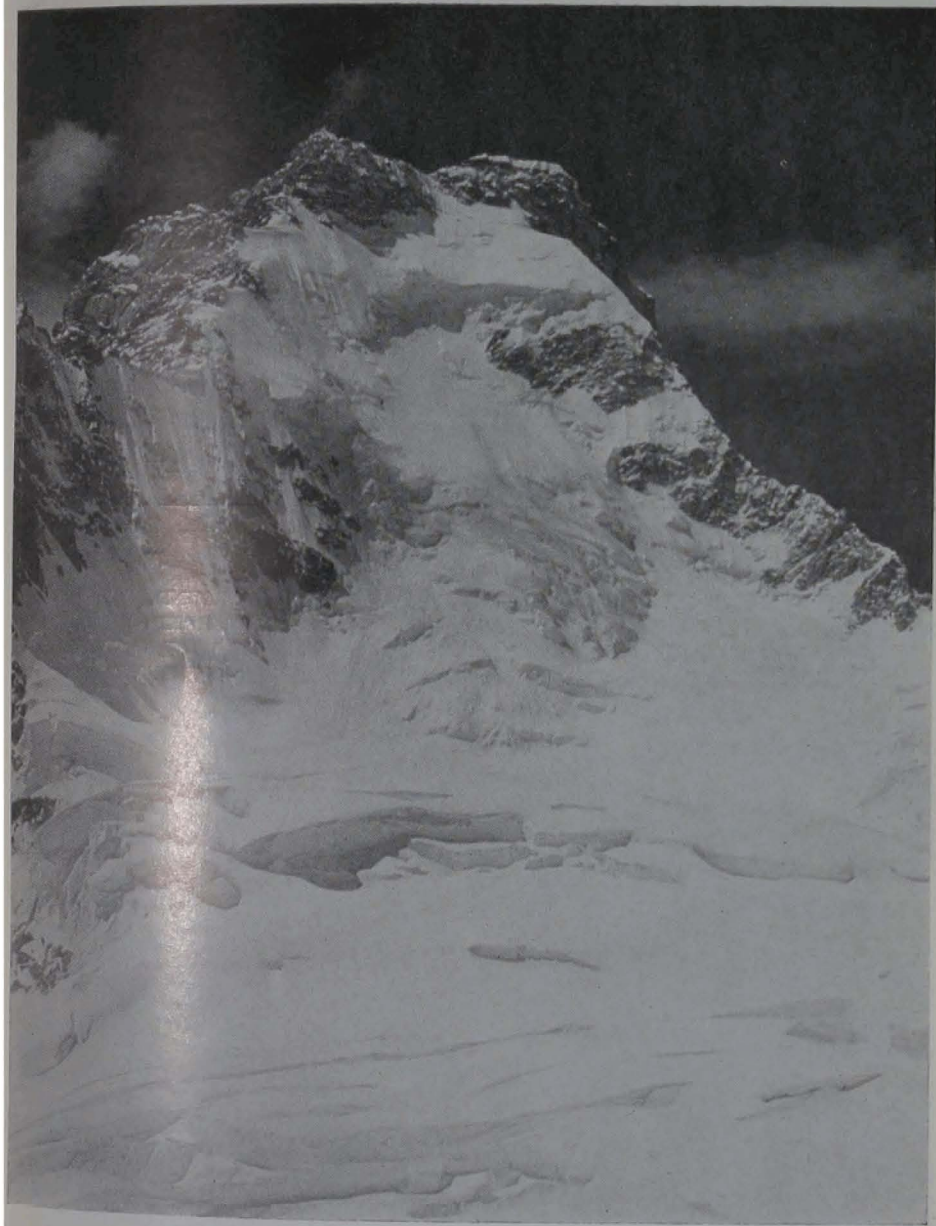


Photo: Tom McCormack

THE SOUTH-EAST FACE OF MASHERBRUM TAKEN FROM THE SUMMIT OF SERAC PEAK
ON JULY 8, 1960. THIS SHOT SHOWS THE APPROXIMATE LOCATIONS
FOR CAMPS IV, V, VI AND VII



Photo: George Bell

CAMP II, 19,500 FT. UNNAMED PEAK IN THE LEFT BACKGROUND. DR. TOM HORNBEIN ON LEFT IN PERUVIAN HELMET. THREE HAPS, RAHIM KHAN, MOHAMMAD HUSSEIN, AND ONE OTHER, BETWEEN TENTS. NOTICE THE SNOWSHOES. WE NEVER USED THEM. THIS WAS AS HIGH AS THEY WENT

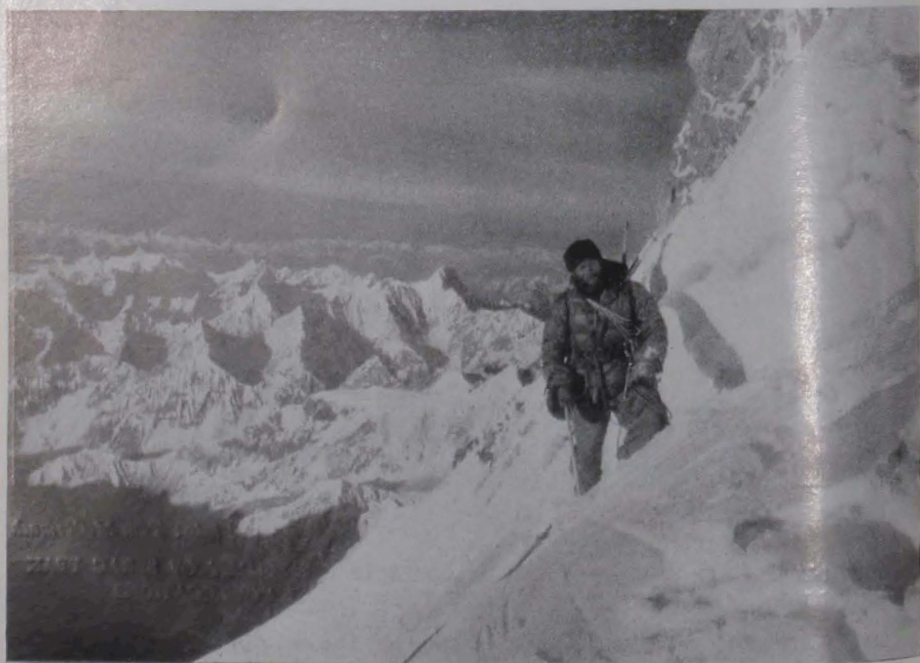


Photo: George Bell

WILLI UNSÖLD AT THE BERGSCHRUND JUST BEFORE STARTING TO CLIMB DIRECTLY UP INTO THE COULOIR THAT LEADS TO THE SUMMIT RIDGE. THE ROCKS OF THE SOUTH OR WEST PEAK IN BACKGROUND. PICTURE TAKEN ABOUT 6 A.M. IN THE MORNING OF JULY 6. NOTICE THE SHOVEL AND THE RAPPEL PICKETS STICKING OUT OF THE PACK

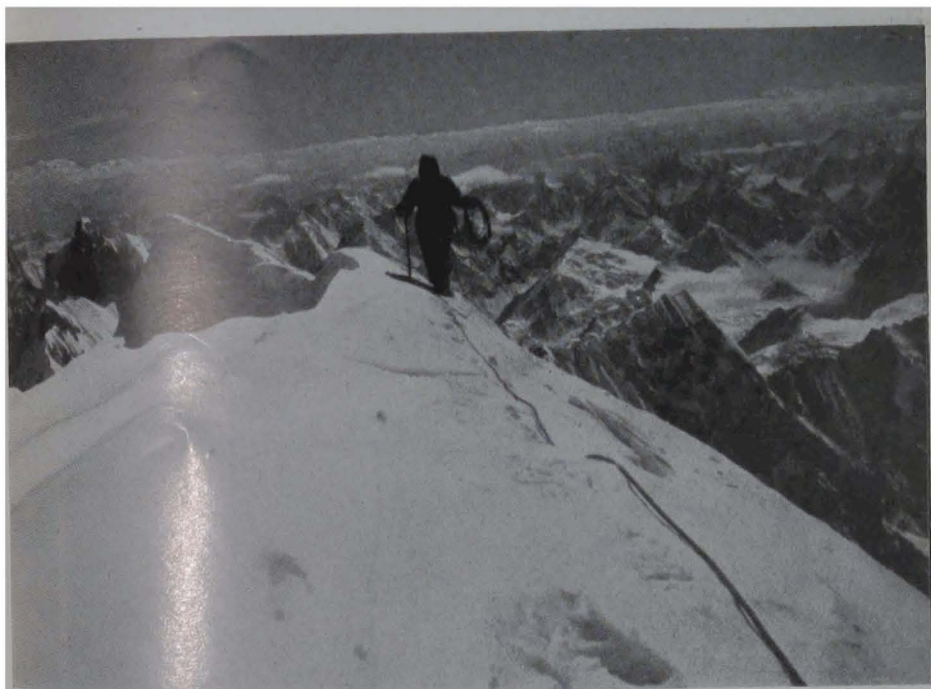


Photo : George Bell

WILLI UNSOELD ON THE SUMMIT RIDGE. SOUTH OR WEST PEAK IN THE LEFT REAR.
PICTURE WAS TAKEN ABOUT 3.15 P.M. ON JULY 6, 1960



Photo: Richard McGowan

OUR SIX BALTI HIGH ALTITUDE PORTERS (HAPS). FROM LEFT TO RIGHT—
FIRST ROW: QASIM, GHULAM RASUL (SIRDAR), RAHIM KHAN.
REAR ROW: ABDUL RAHIM, MOHAMMED HUSSEIN, HUSSEIN



Photo: George Bell

CAMP V AS SEEN FROM ABOVE ON THE WAY TO CAMP VI. CHOGOLISA IN THE BACKGROUND

along its bottom. This was a time of peace, a time for soul-searching introspection.

The jeep ride to Skardu seemed to be the prelude to the end; back in a few hours over those first four painful days of walking. We were being carried faster and faster towards civilization, away from the new-found understanding and closeness we had acquired. The question remained: Could we take it with us?

December 1, 1960: U.S.A. Javee's hands and feet recovered with the loss of one digit of one finger. Masherbrum is not a 'male' mountain; I suppose it never really occurred to us to give it a sex; somehow it seemed above this. The answer to the final question is, in large part, 'Yes'.

YUGOSLAV EXPEDITION TO TRISUL GROUP, 1960

By A. KUNAVER

EXPERIMENTAL expedition is surely the best name for the first Yugoslav Himalayan expedition. This is the reason why the correct organization represented the same value for us, as the climbing in the Himalaya itself. The selection of climbers was a great problem. All of them have climbed in the Alps up to 4,800 metres, but lacked experience in higher altitudes as well as acclimatization to climbing conditions there.

First preparations began in the spring of 1959. In the autumn of the same year the Himalayan Committee was constituted by the Alpine Club of Slovenia. Financial means for the expedition were gathered from the special Himalayan Fund. Besides, many factories and firms helped us and substantial support was received from our Government.

The second task of our expedition was to use our own equipment, made by domestic industry. As the greater part of our equipment was made in Yugoslavia, we had to do much supplementary work, but the result was very successful and gratifying.

The expedition consisted of seven members: Stane Kersnik—leader, Dr. Robič, Ante Mahkota, Ciril Debeljak, Marjan Kersič, and Jerin—journalist, and Aleš Kunaver.

The Government of India delegated to our expedition a liaison officer. This function was performed by Capt. Vinod Badhwar from the Gurkha Rifles. He was an excellent help to us all the time, but especially in the first month by organizing transport to the Base Camp. According to our principles that our expedition is an experimental one, we engaged two Sherpas only: Sirdar Lalpa Tensing and cook Ang Nyima, who were both excellent companions. In such a small expedition as ours, a journalist is something extraordinary, but his daily reports in the newspaper largely increased the number of friends of alpinism in our country. This fact was very important for future expeditions.

The first goal of our expedition was Nanda Devi or, exactly, the ridge between both summits of this mountain. However, we received final permission to enter the Himalayas from the Government of India, being on the sea already. We received the permission to climb Trisul only, since Nanda Devi lies beyond the Inner Line. In this situation we decided to climb on the southern side of Trisul.

This unexpected change caused us many difficulties, because we remained without any literature on the Kali Ganga valley, which had already been twice crossed.

Trisul has three summits—as its name indicates. The summits are ranged from north to south and, to simplify the nomination, we call them Peaks I, II and III. The main summit was climbed by Dr. Longstaff and others after him, from the northern side. The other two summits belong to the surroundings of the Bidalgwar Glacier and their eastern face feeds this glacier with mighty avalanches.

The expedition travelled by bus across the hills to the village of Gwaldam, and from there to the Base Camp on foot. As we had no information about the Kali Ganga valley, we used the recommendations of the local people. From this side we were recommended to keep to the right bank of the Kali Ganga, but our scouts found it to be worse than the left bank. The main group engaged in the meantime 115 porters; 15 of them were Nepalis. They followed mostly the left bank of the Kali Ganga, and thus they were compelled once only to climb one side ridge of 3,500 metres. At the end of the valley the majority of porters left us because they were frightened by demons. Only the Nepalis remained, and they transported in the next days all our equipment to Base Camp I, situated on the moraine at 3,900 metres. For acclimatization we climbed Baraltholi, 5,000 metres, which has been climbed once already. The main base was on the Bidalgwar Glacier at a height of 4,700 metres.

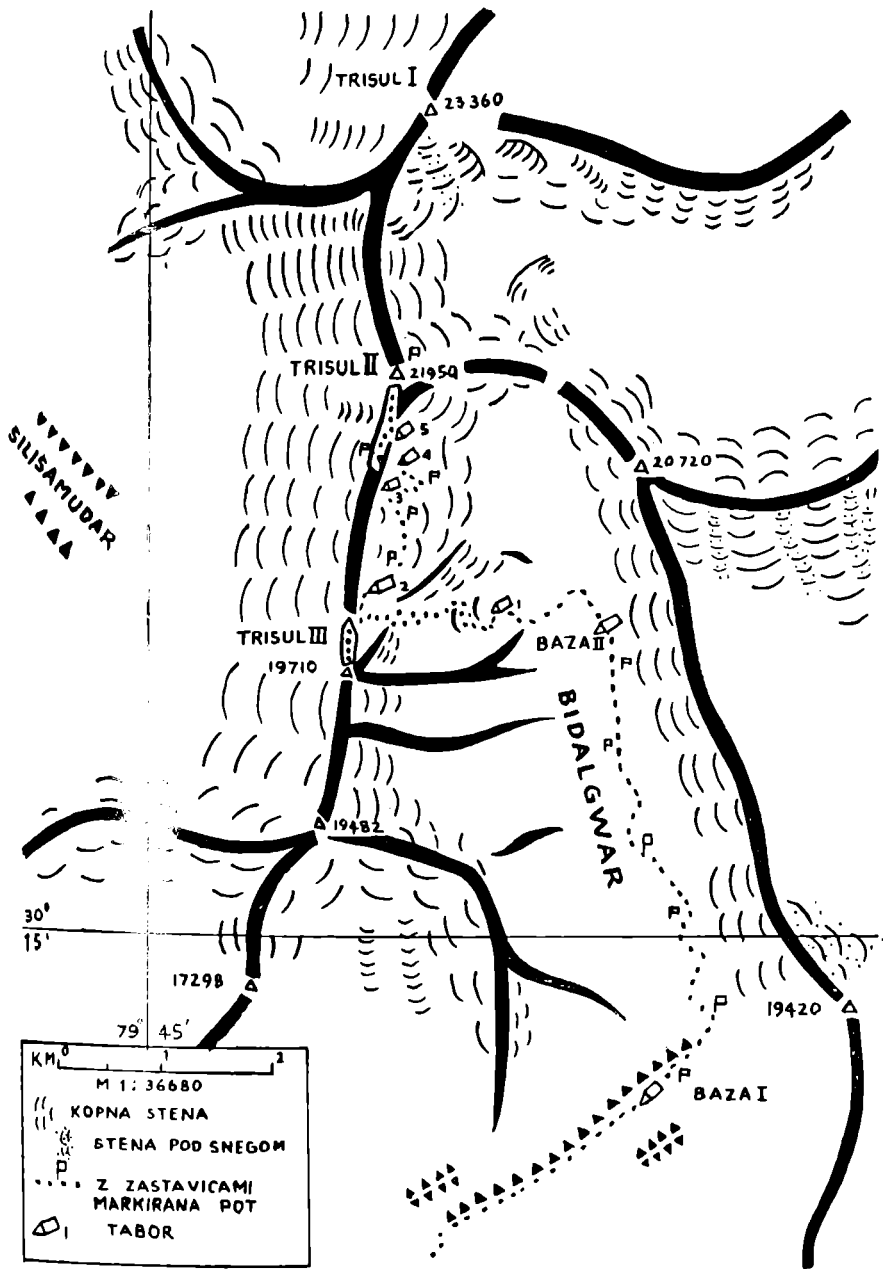
From the glacier we had to climb the eastern face of Trisul. This is a very steep wall, offering few possibilities. We chose the glacier leading from Bidalgwar to the col between Trisul II and III. The col is 6,008 metres high. The way from the base to the col we divided into two parts. During the daytime ice-avalanches often thundered down the icefall. We decided therefore to pitch Camp I under a rock overhang at 5,140 metres, to sleep there, and to climb the main part of the icefall by night, when the danger of avalanches was smaller. By this means, the expedition was divided into two working groups, continuously changing their places on the mountain. Camp II, the starting point for Trisul II and III, was situated a little under the col, protected by a big serac. The summit ridge of Trisul III rises immediately to the south of the col. To the north, it is necessary in the direction of Trisul II to traverse a large snow dome about $1\frac{1}{2}$ kilometres long to a little col. This part of the terrain is very easy to traverse and nearly horizontal. On the northern side of the dome begins the ridge leading in three steps to the top of Trisul II. To the first step the ridge is very steep and

sharp; behind this part is again an easier section. At the base of this ridge we pitched Camp III. It served especially for preparing the way up to the first step. We tried to climb from Camp III directly on to the ridge, but it was not possible, because the ice on the ridge was too hard and too steep for heavily-laden climbers. Therefore we abandoned climbing on the ridge but left fixed ropes there. We found an easier crossing on the east face, but this crossing would become unsuitable and dangerous in case of fresh snow. Therefore the ridge was left as a second possibility.

At this time some of our comrades got ill and during the climbing to Camp III the fourth member of our group returned ill to Base Camp. This weakened our situation on the mountain. Especially we missed men for transporting food to the higher camps. Therefore we had to try to climb Trisul II and III as soon as possible. The remaining three climbers and two Sherpas now formed two groups, and on June 3 we erected Camp IV. On the mountain it was snowing and when one group pitched Camp IV two Sherpas and one climber returned to Camp III. Camp IV was situated on the lower side of a big crevasse which was a good protection against avalanches. This camp was the best of all, with a picturesque position and a beautiful view of Nanda Devi. Here one high-altitude tent was pitched and one more Sherpa arrived the next day.

The morning of June 4 was very quiet and beautiful. We went to the ridge. From the camp a short steep slope led us to the plateau where the second step of the ridge begins. From this plateau we had a beautiful view of the Nepal Himalayas to the east and of the Gangotri group to the north. In the clear morning we took some movie-pictures and reconnoitred the ridge, because at the time we had no spare rope to fix on the exposed places. All available rope had been fixed on the face under Camp IV. This was necessary because of the equipment which had to be carried up to establish the camp. At the end of the day the second party brought us 150 metres of rope for fixing on the ridge, and also a tent which we intended to pitch higher up. This tent was brought in case those who were sick might recover and carry up more food. In this case we would be able to climb Trisul I also. Between the summits of II and I there are no technical difficulties but the ridges are about two kilometres long.

After a beautiful morning, the mist covered the mountain very early and the line of marker-flags led us safely back to camp. On the way back we marked all passages which were not sufficiently prominent. In the evening the Sherpas returned to Camp III and three climbers remained at Camp IV. The next day Mahkota and I



SKETCH MAP OF TRISUL GROUP



TRISUL II SEEN FROM RIDGE ABOVE CAMP III



BASE CAMP. BEHIND TRISUL II, AND ICEFALL LEADING TO THE COL



CAMP IV AND NANDA DEVI



Photo: A. Kummer

would attempt the summit, while Keršič and the Sherpas would pitch the tent on the ridge.

On June 5, we two left Camp IV before dawn. The weather became bad and we were soon enveloped in cloud. On the ridge we did not meet any technical difficulties except one passage on a steep slope where the snow was very bad. Over hard ice there was $\frac{1}{2}$ metre of powder snow which hampered us the whole way. On this slope we fixed 150 metres of rope to secure our way back. From now on the ridge was nearly level, leading to a little col under the summit dome. We avoided the big cornices overhanging the eastern face by traversing the western slope. This crossing was very fine, for this part of the wall falls about 3,000 metres to the Nandakini valley. The face is very impressive, for no bands and steps interrupt it. On the col under the dome we left our rucksacks with bivouac equipment. Now we went over a broad, easy ridge, but deep powder snow impeded our progress. Near the top we had a small incident, when unexpectedly a snow-bridge broke over a hidden crevasse. Immediately after this we were on the summit of Trisul II. The top is very broad and is formed by a dome about 90 metres high. The weather was bad and after waiting half an hour we started back. We returned in an electrical storm and were very surprised to find at these altitudes the so-called 'Elias fire'—incessant sizzling of electricity from all the metal parts of our equipment.

In the night the storm ceased, but no one arrived from Base so we had to return. We went down to Camp II to try Trisul III over the northern slope. This summit is a beautiful ice pyramid south of the col. The north face is a continuation of the wall extending from Trisul I and II.

The next day, June 7, was a fine day. This was our third climbing day without snow or cloud. All three climbers went to the top, but our Sherpas brought down to Camp II the equipment from Camp III.

The ascent of Trisul III was very fine. From the snow-basin, where the icefall to the Bidalgwar Glacier begins, we had to climb over a steep ice slope. This begins with a bergschrund, where we had to use some ice-pitons. A steep ice passage led us to the col itself. The col was very sharp with many cornices on the eastern side. We avoided the cornices by traversing the slope to the point where the ridge rises to the top. The ridge has several steps, but only the last one required technical skill. This step was of pure ice, 40 metres high. The climbing here was difficult, but extremely beautiful, because we were just on the edge of the mighty west wall.

Beyond this step the ridge is only gently inclined and leads without difficulty to the top. We were very surprised to find a big crevasse across the summit of this nice ice peak. From the top we had a fine view of the Nanda Devi Sanctuary, Gangotri and Kamet.

During the afternoon and the following night we descended to Base. We found there our four comrades not yet completely recovered and therefore our leader decided to end our climbing activities.

SIKKIM, 1960

By H. V. R. IENGAR

THE middle of September, 1960, found me marching up the Tista Valley in Sikkim, heading towards the Cho Lhamo plain accompanied by four Sherpas. I was extremely fortunate to have permission of the Sikkim Durbar to visit Kangchenjhou, 22,603 ft., whose north-eastern approaches I wished to examine.

The first time I ever began seriously to entertain the idea of having a look at Kangchenjhou was after a conversation in Calcutta with T. H. Braham who had made an unsuccessful attempt on the mountain in 1949. I soon found myself engrossed in Sikkim literature and happily found that Kangchenjhou offered a wonderful opportunity for a short mountaineering holiday. It had been climbed by Dr. Kellas in 1912 from the north at the very first attempt. However, he noticed from the east col that it appeared to be different from the col which is visible from the Sebu La and apparently lay to the north of it across a deep valley. He further observed that a better approach to the col would have been from the south side which could be reached by following the NE. Kangchenjhou Glacier. In 1919, Mr. Tombazi approached the mountain from the north-east but bad weather forced him to give up at 20,000 ft. Unfortunately, no details are available of this effort. Later visitors stopping by at Gurudongmar Cho described the NE. Kangchenjhou Glacier as falling in fine formation into a small lake. With only one exception no serious effort appears to have been made to go beyond the moraine ridge separating Gurudongmar Cho from the glacier lake. In 1936, Shipton and three others visited Gurudongmar, 22,032 ft., on their way back from Everest. They traversed the NE. Kangchenjhou Glacier and discovered just one spot which gave them easy access to the col separating Kangchenjhou and Gurudongmar. From this col Shipton and Kempson reached the summit by climbing the west ridge of Gurudongmar. One other serious attempt was made on Kangchenjhou after 1919 by Braham in November, 1949. This proved to be unsuccessful because of excessive cold and Braham had to retreat without setting foot on Kellas' col. To attempt an ascent of the mountain it would have been simplest for me to approach Kangchenjhou from the north and try to follow the established route of Dr. Kellas, i.e. up to the east col, involving a short steep section, and then turn right and along the east ridge.

This would undoubtedly have robbed the trip of some novelty, and I decided that it would be more interesting to examine afresh the north-eastern approaches to Kangchenjhou. The idea of climbing in Sikkim proved in the end to be irresistible because I discovered that if, for reasons beyond my control, I was unable to visit Kangchenjhou, the Khankhyong plateau, the Chento region and Chombu, 20,872 ft., have been generally neglected. The mountains between the Sebu La and the Burum La ranging between 18,000 ft. and 21,000 ft. offer some hope of success but, astonishingly, remain inviolate to this day.

Arriving in Darjeeling on September 10, 1960, I was able the next morning to meet the following Sherpas who came with me to Sikkim:—

1. GYALJEN MIKCHUNG or GYALJEN II. Sirdar. Aged 31. He came to me with first-class references and proved excellent. Among other things he had climbed on Trisul, Makalu and Ganesh Himal.

2. MINGMA II. Aged 26. He was exceedingly tough and had been on Brig. Gyan Singh's Everest Expedition and had carried to the South Col.

3. ANG NOWANG. Aged 22. He was a porter on the Himalaya Mountaineering Institute courses and had limited experience of the high mountains. But he stands out in my memory for his tireless energy and enthusiasm.

4. LEWANG CHITTAR. Aged 22. His qualifications were similar to those of Ang Nowang. He was my frequent companion on the trips between camps.

We left in a Land Rover on the 12th for Gangtok where I was most hospitably looked after by the Political Officer, Mr. A. Pant. I had planned to spend one day in Gangtok, buying rations and arranging for mules to carry food and equipment. But on the 13th no shopping was possible as it was a Tuesday. The mules delayed us a further day in Gangtok and we were unable to leave until the morning of the 16th. No amount of argument would persuade the muleteers to take us to Thangu in four days, and I had to content myself with following the normal daktar-bungalow stages. This was perhaps just as well, since I was as yet out of condition. Although the first few miles were jeepable, I felt that we should cover the entire distance on foot and so at about 11.30 one morning we started walking down the Residency grounds, bound for the distant mountains.

When we had crossed the Penlong La and left the fluttering prayer flags behind us, we were well and truly on our way at last. I had decided to go up the Lachen valley because I was uncertain of the condition of the Dongkya La. I was relying on animal transport to take the heavy luggage and wanted to avoid any possibility of delay in the Lachung valley. Things turned out unexpectedly well, and I had a pleasant surprise in Lachen on the 19th. As I entered the dak-bungalow compound and made my way up the steps I noticed an odd-looking character in the vicinity whose face looked familiar. A few minutes later he walked into my room and was introduced by Gyaljen as Angtharkay. I was delighted to make the acquaintance of such a well-known figure, particularly under such startling circumstances. He had probably been having a talk with my Sherpas before I came in, so I think he was more than a little pleased to come and greet me. I was, of course, very glad to meet him because he had accompanied Braham on his trip to Kangchenjhou in 1949 and to the Chento region in 1952. Angtharkay has retired from climbing and works as a contractor, but he still takes a lot of interest in current mountaineering activities in the Himalayas. He was therefore very sympathetic and happy when I discussed my plans with him. He proved to be charming, courteous, and to my astonishment very correct and formal. When Gyaljen brought in my tea some time later, Angtharkay excused himself politely and quickly withdrew. He saw us off next morning on our way to Thangu and I can still remember his smiling face at the gate.

After a rest day at Thangu, we left for Donkung on the 22nd, having taken the yaks to carry the stores and equipment from now on. We had been lucky with the weather on the whole and had had no trouble with leeches. But as we passed the Giaogong gorge it began to get cold and blustery and we were a little wet when we arrived in camp. It snowed overnight and we were glad to get away from Donkung, which was very depressing at the time. Ahead of us the weather still seemed uncertain but we felt that things would improve. As we swung right the northern precipices of Kangchenjhou showed a lot of adhering cloud, making a wonderful, awe-inspiring sight. Behind us Chomiomo showed up clearly for the first time and increased our confidence in the weather. We were making directly east for Gurudongmar Cho and were thus traversing a little higher than the regular track. Unfortunately, it was not high enough for us to see the entire northern route and we had to be satisfied with a fleeting glimpse of Kellas' col and the east ridge. Since we did not proceed as far as Yumcho we were unable

to see the north-eastern aspect of the massif as a whole, which as things turned out was really a pity. In the late afternoon we crossed a small ridge and were soon dropping down to the lake below. Five o'clock found us established at the base camp at around 17,000 ft. at the south-western corner of Gurudongmar Cho. It was an imposing if somewhat forbidding spot. There was an absence of the lush greenness to which we had been accustomed on the way up. I was disappointed at having seen so few flowers *en route* and here there was nothing at all, not even any scrub worth speaking of.

The 24th morning turned out to be beautiful, with the sun shining from a pure blue sky. Because of a slight headache, I had decided not to move up immediately and all kit and food were therefore turned out for inspection. At 11 o'clock Gyaljen and I went to have a look at what lay ahead of us, as up till now we had been unable to see the NE. Kangchenjhau Glacier. Arriving at the moraine ridge rising at the southern end of Gurudongmar Cho, we were able to examine the glacier we hoped to follow and the lake into which it fell. The glacier lake was not frozen at this time of the year although small blocks of ice floated in it. The moraine ridge was a wonderful viewpoint and in all directions we were able to feast our eyes on the mountain panorama. We could not, of course, see Kangchenjhau properly because we were too close to it. The NE. Kangchenjhau Glacier was clearly visible and we saw that we could get on to it without difficulty by skirting the lake on our right. The col lying between Gurudongmar and Kangchenjhau, which can in fact be seen from Yumcho, was prominent, but it was obviously not Kellas' col. The weather continued fine except for occasional clouding of the summits on the south. We decided to leave Base Camp the following morning.

On the 25th the weather seemed less promising. On our way to the moraine ridge a little after 10 o'clock the Sherpas became excited on spotting a Tibetan camp not far away. Security in any case demanded that one of them spend the night at the Base Camp. With Tibetans close by, Mingma decided to return immediately and passed on his entire load to Gyaljen. Camp I was established at 18,000 ft., not very far from the glacier lake. When Ang Nowang and I arrived there, Lewang was preparing to return to the Base Camp and appeared to be in a hurry as the weather was deteriorating. It soon became cold and rather windy and later in the afternoon it started to snow. The following day the bad weather continued and it was impossible to do anything till 10 o'clock. However, despite the spindrift and the blasts of wind which shook the camp, Gyaljen and I managed to move slowly up the glacier to

see the prospects for Camp II, which would have had to be at about 20,000 ft. We made slow progress by keeping to the left bank of the glacier under the tall and steep rock bluffs of Point 20870 on our right. The centre of the glacier was very broken up and the right bank was susceptible to avalanches from Gurudongmar. I do not think that we were able to get very far under the prevailing conditions. Mist made it difficult to verify our highest position, but I doubt if it can have been more than 19,000 ft. All we could see ahead of us was a sort of minor icefall. A camp site was possible near this without danger of stone-falls from the rock face on our right. I regret to say that this was the highest point we reached on the glacier. We had to turn back without identifying Kellas' col and without seeing a way out of the amphitheatre which loomed in front out of the mist. This was a great disappointment as I had, perhaps rashly, expected to find a straightforward route from the glacier to the east col of Kangchenjhou. On the way back to Camp I the steep rock wall, now on our left, discharged a few missiles but it was possible to keep out of harm's way. The main NE. Kangchenjhou Glacier bearing obvious evidence of avalanches and rock falls, I began to wonder if the north-eastern approach, or at any rate the path we were following, was going to lead to the summit. The weather looked unrelenting as we returned to Camp I, after having been away for approximately three hours. Having a few days' supply of food and a primus stove with us, we prepared to ride out the storm. Unfortunately, the weather had the final say in the matter and on the 28th we were obliged to retreat from Camp I. Our return to the Base Camp, unpleasant in the soft snow, was enlivened by the sight of avalanches coming off the north-western face of Gurudongmar. After a promising start on the 26th the weather had changed and defeated us at a time when I was not properly acclimatized. My memory of those four days in Camp I is of an inhospitable, arctic world and the only redeeming feature was that we had managed to go some distance beyond our camp on the second day.

When the 29th turned out to be cloudy and bright, I began to wonder if we had not committed a blunder in retreating from Camp I so soon. However, a slight cramp in the calf muscle provided some distraction on yet another day of inactivity. I made use of the occasion to send out Mingma and Lewang to scour the neighbourhood and find out if yaks were available for the return journey. They returned in a surprisingly short time with yak dung, mutton and a Tibetan who readily agreed to bring his yaks on the 9th

October, after which I could not afford to remain at Gurudongmar Cho.

On the 30th, Base Camp bore an icy appearance and there was doubt as to whether the weather had settled. Gyaljen respectfully pointed out this fact, but I told him that I wished to leave for Camp I without further delay. On the glacier we had left behind inside a tent some food, most of my spare woollen clothing, and my crampons and rope. Moreover, my ice-axe lay buried in deep snow in Camp I near the tent entrance and I was anxious to retrieve it. On our way to the moraine ridge I was mentally re-establishing this chilly and bleak camp, but things took a startlingly different course before long. In an hour's time we were making our way along the top of the moraine ridge, when glancing at the NE. Kangchenjau Glacier I noticed again a fact which had struck me previously. The glacier is set in one of those small valleys which do not catch the sun very easily, are usually cold and windy, and somehow depressing. The peaks and ridges above were shining in the morning sun, but the glacier itself had an unhealthy appearance. With memories of our recent defeat so fresh in my mind, I could not avoid a sense of foreboding of being caught out in a second blizzard on the glacier. With my slender resources this would have completely ruined my chances on the mountain. I therefore cried a halt and suggested to Gyaljen that instead of persisting on the glacier route we should turn off right on to Point 20870 which offered no difficulties, had better weather on the whole, and by overlooking the NE. Kangchenjau Glacier might tell us more about the route I wished to follow. At the time I genuinely believed that this need be only a temporary arrangement, but as things turned out I never again set foot on the glacier. To this day I am not certain whether this decision of mine to leave the glacier was right.

Gyaljen readily fell in with my idea and we temporarily split forces, while Mingma and Lewang dropped their loads on the moraine ridge and proceeded to Camp I. They went to retrieve the tent which we had left behind and also to collect my spare photographic films and woollen clothing. They unearthed my ice-axe, brought my crampons and rope, and food. This was a splendid job done in very fast time. Returning to the moraine ridge they added on some of their original loads and followed the tracks of Gyaljen and myself who had gone ahead leisurely to establish Camp IA. An ice-axe was not essential at this stage and I was using a tent pole which, though useful, was clumsy. My boots were leaking badly and I was feeling the cold. Gyaljen therefore went ahead and started preparing a level site for our new camp while I waited

for Mingma and Lewang who were coming up rapidly. We soon reached the crest of a ridge above us and saw the site which Gyaljen had selected. It was situated on a spur at about 19,000 ft. and one was able to get a fine view of Chomiomo and Point 20870 from there. I promised myself some photographs of the sunrise on the following day, but when I woke up there was a complete white-out. Once I emerged from the tent for a short while and looking down towards the Kangchenjhou Glacier lake found that things were possibly not so bad lower down. I was very discouraged with the weather by this time and decided to abandon the glacier route altogether. Lewang went down to Base Camp while Mingma returned to the old Camp I and brought all the things that had been left behind on the glacier. He left a few things on the moraine ridge to be brought by Lewang later, and quickly rejoined us in Camp IA from which Gyaljen and I had not stirred out. The morning of October 2 was again miserable. There was a lot of snow inside the tent. A high wind and poor visibility deprived us of the opportunity to establish Camp II that day. To overcome my restlessness I went for a short walk in the afternoon with Gyaljen, but this was in no way useful. The mist began to lift when we made our way back to camp where we found that Lewang had just come up from base. At about 2.30 in the afternoon there was a shout when Point 20870 reared its head above the clouds. Soon we were basking in the sunshine which showed us for the first time clearly what lay ahead of us. We saw a glittering snowfield rising to Point 20870 which was connected by a ridge with snowy peaks, one of which was probably Kangchenjhou but we could not say which. It was apparent now that we should skirt the snowfield and ascend a spur parallel to the one we were on. This would place Camp II a little below the skyline between Point 20870 and Kangchenjhou.

We had about fourteen degrees of frost that night but no wind. This proved to be a good omen since the 3rd turned out to be a fine day and Camp II was established at about 19,500 ft. at 2 o'clock. The passage was rendered unpleasant by soft snow but there was otherwise no difficulty. Lewang left for Camp I which he was going to dismantle and take down to base the same day. It was an exciting moment when he turned back and left Gyaljen, Mingma and myself in our tiny camp perched below Point 20870 on the edge of reality. It was impossible to recognize Kangchenjhou from here and certainly not Kellas' col. One more storm and our chances on the mountain were finished as we had stretched our meagre resources to the utmost. But there were other compensations that silent afternoon. Chomiomo was prominent on the

west and Pauhunri for the first time could be clearly seen on the east. To the north we could see for miles into Tibet.

The 4th turned out to be a fine day and Gyaljen and I left camp at about 8.30 a.m. We were going to make for the skyline above and to the right of our camp. Thereafter it was impossible to tell. My mood of optimism quickly faded when I discovered the soft condition of the snow. Gyaljen led off but soon I took over the lead and went up in a shallow series of zigzags. I was leading for much of the time as I found it easier this way than when following in Gyaljen's steps which kept breaking under me. The soft snow was overlying névé at an angle of 40° to 60° . There was no real danger of avalanche, but I found the going difficult and I think I realized that the summit was beyond me. It was now simply a matter of getting up to the skyline and seeing what lay beyond. We arrived in due course at a short steep traverse. About half-way across, the snow collapsed under me, but fortunately Gyaljen was very alert and we were on a short run-out. For some distance I had to cut steps in the hard underlayer and then Gyaljen took over, still maintaining a short run-out. Gradually the angle relented and step-cutting was no longer necessary, but we continued to use belays till we emerged at what I can only describe as a semi-cirque of peaks and cols. We were now at one of the depressions which was possibly at an altitude of 20,500 ft. To our left a little distance away was Point 20870. In front of and below us we could see a small patch of the NE. Kangchenjhau Glacier one side of which abutted against the steep wall of Point 20870. Although the weather was perfect and we could see clearly for miles in all directions, it is not easy to describe the scene before us. The glacier route from our position did not really commend itself to us. We were unable to identify Kellas' col and could only guess that one of the peaks on our right was Kangchenjhau. I think we were not far from either of these and certainly we had time to explore a little further to our right. It was puzzling not to be able to identify either the east col or the east ridge of Kangchenjhau.

Unfortunately, I was very exhausted by this time and nowhere near was firm snow or ice visible. In the circumstances it was heart-rending but nevertheless imperative that we stop at that point. And so we turned our backs upon that col. Chomiongo and Pauhunri were again clearly visible while far below between Chomiongo and us we could see a single lake of the brightest blue. In two hours I was imbibing tea which Mingma had prepared in Camp II and was pondering over lost chances. Although the weather had

been perfect I had failed through a blunder somewhere to accompany Gyaljen to the summit of Kangchenjhou, which I am certain he could have done. A private regret, perhaps excusable here, quickly gave way to relief that all the uncertainties were behind us. I was profoundly thankful to have had the rare opportunity to explore the north-eastern approaches to Kangchenjhou. Our route up the mountain had had its interests here and there, but in the final analysis it must be counted a failure. If I were to try again, I am sure that I would follow Dr. Kellas' route from the north.

The story of our return is quickly told. The beautiful weather continued for at least a week after this, much to my disgust. I think we must have come to the mountain about ten days too early. We had some excitement when getting the yaks to cross the Dongkya La because of the quantity of snow on it. We camped about a mile above Meme Samdong and on the 11th passed the tragic Himalayan Club hut. Shortage of paraffin and the return to civilization at Yumtang made me give up any thought of going up to the Burum La to have a look at the Chento region. Besides, the fine weather looked like breaking. We finally arrived in Gangtok on the 14th October, having been away exactly one month.

ACROSS THE INNER LINE

By ANNE DAVIES

Leader, Women's Overland Himalayan Expedition, 1958

ON 15th June, 1958, Eve Sims, Antonia Deacock and I arrived in New Delhi. The journey from England had taken us six weeks. We had driven all the way in a Land Rover across Europe, passing through France, Germany, Austria, Yugoslavia and Greece to Turkey, Iran, Pakistan and so to India. We had driven unescorted across mountain ranges, high plateaux and burning deserts to the midsummer heat of the Indian plains. Despite some grim warnings, we camped every night beside our vehicle and we met with nothing but kindness and curiosity. In Iran the people in the cities warned us of bandits in the desert and the few people we met in the desert warned us of thieves in the cities, but, if we met either, they treated us well, for nothing was stolen from us.

It was in September, 1957, that we had first decided to drive to India and to visit Zanskar (spelt ZASKAR on the map) which is in Ladakh, beyond the Greater Himalayan Range between India and Tibet. The fact that we could find very little written about Zanskar or the Zanskari people in the library of the Royal Geographical Society made it sound enticing, especially as my husband, who had twice been to neighbouring Lahoul, had heard strange tales about Zanskar. It seemed to be largely unknown and only vaguely surveyed.

Our husbands, all experienced mountaineers, from the outset seemed to be convinced that we could carry out our plans. Their support and encouragement did much to help us, and their financial aid made the venture possible.

The blessing of our Patron, Lady Hunt, wife of Brigadier Sir John Hunt, and the great enthusiasm of Dame Isobel Cripps, our Chairman (her husband was the late Sir Stafford Cripps), gave us the incentive and determination to make the expedition a success. It was Lady Cripps who introduced us to Mrs. Pandit, India's High Commissioner to Britain, who also rallied to our cause and helped us enormously with our various diplomatic problems, as well as introducing us at our Royal Festival Hall lecture in London on our return.

Our aims were fourfold:—

- (a) To carry out a survey into the domestic lives of women and children in Zanskar.

- (b) To learn as much as possible of the social conditions, way of life, customs, handicrafts and cooking recipes of the women and children in the countries through which we would pass.
- (c) To make a film of our experiences.
- (d) To climb, if possible, a virgin peak in the region of 17,000 ft. to 18,000 ft.

We planned the venture as three separate expeditions: the outward journey, the trekking and climbing in the Himalayas and the homeward journey.

Before we left England we had undergone a five-day maintenance course at the Rover Works at Solihull, which was to stand us in good stead. We also received much help from various food and equipment firms. The Land Rover carried as much as possible and the remainder we had sent by sea.

Travel-worn and weary we collected our mail from the Rover Agents in Delhi and called at the British High Commissioner's Office to report our arrival. The Y.W.C.A. kindly let us have their guest room and after a cold bath and a sleep we were ready to face up to our problems.

There was a dock strike in Bombay and our luggage there was held up. How long the strike would continue no one knew, but we could not proceed without our vital stores.

Our other problem was to obtain a permit to cross the Himalaya to Zanskar, for it lies beyond the legendary Inner Line. This line, drawn some 100 miles parallel to and south of the Tibetan frontier, creates a buffer state and only very rarely are travellers from the West granted permission to cross into this area. We were no exception to the rule and our application was turned down. We anxiously began to study the map for a fresh area to explore.

However, our enforced stay in this rapidly expanding city was by no means dull for so many people helped and entertained us. We were particularly thrilled to be invited by the Himalayan Club, of which I am a member, to a party to meet the members of the successful Indian Cho Oyu team of climbers who had just returned to the capital.

During our time at the Y.W.C.A. we were made welcome by the many lovely Indian girls living there and they did much to keep our spirits high despite the pre-monsoon heat. We sat talking about our plans with some of the girls, under the whirling punka, one evening when one of them said she was sure that the Prime Minister, Pandit Jawaharlal Nehru, would be pleased to meet us. She suggested that we should write and ask for an audience and she would

have the letter delivered. Rather unbelievably we carefully penned a letter. A few days later, to our amazement, we received an invitation to visit the Prime Minister in his house.

Mrs. Indira Gandhi, Mr. Nehru's daughter, greeted us when we drove up in our Land Rover. A few minutes later the Premier arrived from a Cabinet meeting. The delightful informality of our host and hostess soon put us at ease. Maps were called for and spread on the floor and we were soon pouring over a large scale map of the Himalayas. For the first time we were able to see the 'Inner Line' clearly marked, in green ink, on the map. Until now its exact position had been something of a mystery to us.

Mr. Nehru had recently returned from an enjoyable holiday in Kulu and showed obvious enthusiasm as we discussed our plans and traced out our proposed route on the map. After nearly an hour of nostalgic discussion—I had been to school in the Himalayas and also on two small expeditions there—he suddenly said, 'Well, I can see no objection to you young ladies carrying out your plans to visit Zanskar. I will see my Foreign Secretary about the necessary permits in the morning.'

We were asked to renew our applications and two days later the Foreign Secretary granted us our permits. To us it seemed unbelievable that such busy people as the Indian Prime Minister and his Foreign Secretary could have found time to help our venture. We were thrilled and elated.

I flew to Bombay by Viscount in 3½ hours and managed to get our boxes through Customs, free of duty, and on the train in six hours. The 36-hour journey back by train was uncomfortable and extremely hot. Antonia and Eve drove the Land Rover to Patankot where I joined them from the train.

What joy it was to wind our way up through the lush green foothills of the beautiful Kangra valley. We spent a cool night in the Palampur rest-house, with only the howl of jackals to shatter the peace. The next morning we met some of the girl students from the college nearby. We mistimed the opening of the barrier on the one-way traffic road through the Beas gorge at Mandi and so spent a pleasantly cool afternoon at the rest-house there where the cook prepared omelettes and apricots for our lunch. Late that night we reached Sunshine Orchards, Manali, and met Major Henry Banon, the local Himalayan Club Secretary, who had a room and a meal ready for us.

After a good night's sleep we greeted the day and gazed in wonder at the beauties of the Kulu valley. Our two Ladakhi porters, Namgyal and Nowa Ram, were waiting there for us. They had both been

with the 1955 R.A.F. Himalayan Expedition of which both Eve's husband, Flight-Lieutenant John Sims, and my husband, Squadron-Leader Lester Davies, had been members. Namgyal had also been with Mrs. Joyce Dunsheath's Abinger Hammer Expedition in 1956. We all set to with a will and repacked our stores into suitable mule loads and ten mules were booked for the expedition. However, on the morning before we planned to depart, Antonia developed a fever. Fortunately, in the Mission hospital in Manali village was Dr. John Watson, a Scot, and his kind administrations had Antonia on her feet again in four days.

Major Banon kindly let us have a garage for the Land Rover while we were away. A riding pony was ordered for Antonia for the first day and we began our trek with our two porters, ten pack animals and the ghorawallah and his two youthful assistants. The second part of the expedition had started and we were happy to be on our way again.

The first day's march was on a jeepable road beside the tumbling Beas river. As we climbed higher Namgyal tempted us to take a few short cuts, but we found the going so steep and exhausting that we soon learnt our lesson and stuck to the main track. We camped the first night above Rahla, at the foot of the 13,050 ft. Rohtang La. It rained hard during the night and the clouds were low when we set off the next morning. Antonia had found the day riding the pony painful and decided that she preferred to walk, so the pony and his attendant were sent back to Manali. The climbing of the Rohtang showed how tired we were after our wait in Delhi and the weeks of travel in the Land Rover, and we were exhausted by the time we reached the pass. Namgyal met a friend who ran a tea shop in a tent near the top of the pass and we were given tea. Although the glass was far from clean it was the best drink I have ever tasted.

Dropping down into Lahoul on the other side we could see the Kulti valley that our husbands had explored three years before. Having seen their numerous photographs we felt that we were with old and familiar scenes again. We crossed the Chandra river at Khoksar and proceeded down the hot dusty valley to Sissu. Here we had intended to spend one night on the lawn of the rest-house, but one of the ponies had wandered away from the grazing ground on the mountain-side and could not be found, so we had an enforced rest-day. However, it was a good opportunity to write letters and to catch up on our diaries. Gondla was our next stop. I had sore feet and limped painfully into camp long after the others. Small boys and girls came to meet me from the village and one charming lad insisted on carrying my

shoes as I continued in my stocking feet past the many Mani walls and the prominent house of the Thakur Sahib. Our tents were under willow trees with a babbling brook nearby. The next morning a party of young women carrying large stones on a special frame of wood on their backs stopped and chatted to us. Many were beautiful, but good looks and shyness seemed to go hand in hand and they fled when a camera was produced. Just as we were leaving a message was sent by runner from Tandi that the bridge there was being washed away by flood waters. On arriving at the bridge we found gangs of men and women carrying stones to repair the breastwork that was being torn from the bank. No one was allowed to cross the suspension bridge with loads, so we pitched our camp under the willows on the bank of the river and spent the day watching the repair work in progress. However, to our amazement, although the work was incomplete, the workers all disappeared at five o'clock and left the river to do its worst during the night. Throughout the hours of darkness it poured with rain and the river was higher in the morning. Namgyal called us at dawn and told me his plan of carrying all our stores over the bridge before the engineers arrived on the scene. The mules were sent some seven miles up the river to Kyelang, where they could cross by a bridge and then trek the seven miles down the other side to rejoin us to pick up their loads again. This was quickly carried out and I waited with the loads and the porters on the other side in pouring rain.

Here we left the Chandra river and continued up the valley of the Bhaga to Kyelang, the capital of Lahoul, passing the impressive Gompa perched high in the cliffs outside the town. In the bazaar we purchased umbrellas which proved most useful both for the rain and to keep off the intense rays of the sun. The march from Kyelang to Jispa was steep and beautiful. In places the path had disappeared in landslides but our sure-footed animals negotiated all obstacles. The village people we met greeted us with the Lahouli word 'Namesta' as we walked between the terraced fields. They talked happily in Hindi with me and were most curious to know who we were and what we were doing in their country. The older women in particular intrigued us with their hair plucked back from their foreheads into a sort of inverted widow's peak and decorated with a large yellow ball on either side of their temples. Their hair was plaited in numerous small braids and held in position at the waist with a large silver ornament.

Just before sundown we met Thakur Purta Singh of Lahoul in his village at Bagnai. He was returning from a devil-dancing ceremony in the temple there. He asked us to join him in a drink.

Shawls were spread on the path and we sat for a short while and drank with him our first cup of Chāng, or barley beer, whilst he talked of his time in the Dogra Regiment.

It began to rain again and we said our farewell quickly and proceeded along the rough track over a river to Jispa. The route took us round the edge of a lake. When we returned this way several weeks later the lake had disappeared, obviously whatever had blocked the river and caused the lake, some years before, had been dislodged by the flood waters. The wireless operators from the Jispa police post checked our passports and Inner Line permits in the morning. A Sikh doctor and his assistant, who were touring Lahoul dispensing medicine to the villagers, told us much about the health problems of the district. He was obviously a dedicated young man who felt he had a mission among these lonely villages.

Darcha is on the Inner Line which runs along the south bank of the Barsi. The bridge was under construction and the only way to cross the river at this point was by Chula, a box suspended by pulleys from a wire rope spanning the gorge. The mules were unloaded and sent a further eight miles up the river to cross by a bridge and then down the other side to rejoin us. Whilst waiting on the north side for the mules we watched Tibetans and local Lahouli merchants exchanging goods at a market set up for the purpose. The Tibetans had trekked over high mountain passes from the Salt Deserts of Tibet, taking two months to reach Darcha. Each animal carried a total of 10 seers (20 lbs.) in two miniature panniers slung across its back. At the Inner Line it was exchanged for Indian grain and flour, which was loaded into the panniers before the long trek back to Tibet.

That afternoon we met a young Sikh P.W.D. engineer, who was constructing the bridge, and he gave us the news of the revolution in Iraq and the Lebanon. On his portable battery radio we listened to President Eisenhower's speech and wondered if there would be a war in the Middle East. We were a little anxious that our return overland route might be cut. However, after some discussion, we decided to press on and see how the political situation had progressed on our return. From Darcha onwards we were out of touch with the outside world for several weeks.

As we climbed up towards the Bara Lacha La, trees ceased to grow and the path was a mere track worn by the feet of animals and men. In places we stumbled over glacial moraine. Zing Zing-bar, on the map, had sounded such an exciting place but all we found there was one building, a deserted tumbledown doss house.

Camp was pitched just below the pass. A gadhi (shepherd)

joined the two porters for the night and, long before dawn, we de-camped and were heading for the pass. The first snow glacier gave the mules some trouble for it was slippery and steep, but with careful handling by the muleteers we reached the top safely. At 16,057 ft. we were on the true watershed of the Greater Himalayan Range. To the north lay Central Asia. The track down to the Lingti Chu was treacherous and hard work for men and animals. In places it seemed as if whole mountains had disintegrated, leaving rocks and boulders as big as a house strewn across the valley.

The camp site at Kilang was ideal and we spent a restful night, being awakened next day by chirping marmots. Edelweiss and alpine flowers of every hue surrounded us. It was fairly easy walking across the vast empty Lingti plain, except for the numerous fast-running streams in Rupshu that had cut deeply into the sandy soil and had to be forded. On different days Antonia and I had near shaves when we fell into two of these icy rivers. Unfortunately both our still cameras were drenched and much of our still photography suffered thereafter until we could have them repaired in Delhi. Several of the streams were only fordable in the early morning, before the sun had melted the glaciers upstream and turned them into raging torrents.

Leaving the Lingti Chu the long climb towards the Phirtse La began. On the map (52G) the position of this pass is only vaguely marked and there are many question marks in the area. It was last surveyed in 1862, and then only sketchily. We camped just below the snow-line and were on our way to the pass by dawn. It is only a shepherds' track used in good summers and we were fortunate, for 1958 was an exceptionally hot summer. The climb up to the 18,100 ft. col was a great strain on all of us and we felt limp and tired when we reached the top. However, we had decided to have a go at one of the peaks that lay to the north-east, which is not marked on the map. We found a suitable camp site and pitched two small tents. Nowa Ram, the mulemen and the mules disappeared down into Zanskar leaving the three of us and Namgyal with a rucksack and a box of food. The primus was soon roaring, melting the snow for tea. It took hours to boil the water, the altitude began to affect us and we all had splitting headaches. Antonia Deacock was the least affected, but poor Eve was very sick in the night. We began to wonder why on earth we had left our families and comfortable homes to travel to this windswept spot. However, early the next morning we struggled up towards the summit of our chosen mountain. As we crossed the topmost snow-field the dawn sun lit the myriad peaks and clouds with a rosy hue against an azure sky. As

we gazed at the grandeur around us, our aching heads and limbs forgotten, we knew why we had come. By Himalayan standards not a difficult mountain, to us inexperienced climbers it seemed quite an achievement.

Standing on the virgin summit of the 18,500 ft. peak we decided to call it 'Biwi Giri' or 'Wives' Peak'.

This diversion completed, we continued down into Zanskar and two days later came to our first village, Tetha. All the inhabitants came to meet us and found us a great attraction for, they told us, we were the first European women they had ever seen. Only one European man, a missionary, had ever been seen there. Our clothing and equipment were closely examined and we were asked innumerable questions. Our two Ladakhi porters spoke the same language as the Zanskaris as well as Hindi, and I speak Hindi, so we were able to converse with these fascinating, primitive people. We took advantage of their curiosity to observe them closely and learn much of their way of life.

Time was running out and we made a six-day dash to Padam (pronounced 'Padum'), the capital. The 'main road' was a narrow path, chipped out of the sandstone mountain-side. It ran along the left bank of the Lingti (Tsarap) Chu, sometimes at river level and sometimes steeply climbing high above the numerous cliffs. The people of the small villages through which we passed greeted us warmly and we were entertained by the Lamas at Burdun Gompa, an imposing building built high on a rocky promontory above the gorge. The days were long and gruelling in the hot sun, trapped in the narrow valley by towering sandstone mountains. On the third day we came to the flat plain of Padam which lies at the confluence of the Doda and Lingti rivers, where they form the Zanskar river from which this country takes its name.

About two hundred people live in this tiny Central Asian capital, built amongst huge boulders. At first some of the children hid as we approached them but gradually they gained confidence and soon we had a large crowd watching our every movement during the day.

There is a small police post here and our passports were checked and stamped 'Padam, Zanskar'. Zanskaris all pronounce the name of their country as ZANSKAR, and not ZASKAR as it is spelt on the map, the first letter 'a' being nasal.

Having reached and explored our ultimate destination we quickly retraced our steps towards the Shingo La, 16,722 ft. Camping again at Tetha we were pleased to meet our erstwhile friends there.

The following morning we decided to give all the children sweets. Zanskaris seldom wash and, as all the children were suffering from

colds, their faces were filthy. I told Namgyal to tell them that only children with clean faces would get sweets. There was a mad rush to the ice-cold stream and with clean, wet, grinning faces, about thirty boys and girls lined up for their reward. They were probably more fascinated by the coloured tin-foil wrappings than by the contents of the Spangle packets we doled out to them.

What hard lives these people lead! Winter lasts six to seven months and in the remainder of the year they have to plough, sow and reap their scanty harvest and prepare for the long snows to come. There is no wood for fuel so the roots of the dwarf gorse, juniper and similar bushes have to be collected, often from miles away, for little grows on the steep barren mountains. Dung is also used as fuel and none is used as fertilizer. As there is little irrigation, soil erosion is quite alarming. In fact Zanskar is rapidly becoming a Himalayan 'dust bowl'. What the people cannot produce from their impoverished soil has to be carried over mountain passes of well over 16,000 ft., which means many days' march from the Himalayan foothills. There are no doctors, dentists or schools. The lines of communication are mere footpaths with icy streams and rivers to be forded, for bridges are only made when providence fortuitously leaves boulders in the river-bed to form the breastwork. They possess little besides the clothes they stand in, a few blankets and pots and pans, a spade and a sickle, a few sheep and goats and the small family home. Their greatest possessions are their freedom from officialdom and an infectious cheerfulness. One hopes that the Communist invasion in the Aksai Chin area, a few miles to the north, does not deprive them of even these assets.

Although the Shingo La is some fourteen hundred feet lower than the Phirtse La it was the most difficult we had encountered. From the north we had to negotiate a fairly steep glacier and there were numerous snow-fields. We left our camp just below the snow-line by the light of the moon, but there had been fresh snow near the top of the pass. The unfortunate mules, struggling with their loads, sank into this soft snow to their bellies. Loads were removed and portered to the top and we coaxed, bullied and drove the animals over each snow-field. It was well past midday by the time we had crossed the last snow and started the descent to the Bani Nala.

Back to Darcha, we retraced our steps, through Kye tang and the Chandra valley to the Rohtang. We were sad to leave the kindly, cheerful hill people and return to the heat of the plains. In Manali we received our mail and the news that the Middle East trouble was over and our homeward route clear.

As a reward for their excellent work we took our two Ladakhis to



PORTER NAMGYAL ASSISTS ANTONIA DEACOCK ACROSS A MOUNTAIN STREAM, 14,000 FT.



EVE SIMS, PORTER NAMGYAL AND ANTONIA DEACOCK REST ON THE 14,000 FT. LINGTI PLAIN IN RUPSHU



WOMEN'S OVERLAND HIMALAYAN EXPEDITION, 1958. GOPENG GOH AND OTHER LAHOLI
PEAKS FROM ROHTANG LA CROSSED BY THE EXPEDITION

Delhi in the Land Rover. It was the first time they had been to a big city. They visited the bazaars and saw their first cinema show. However, when we returned to Pathankot three days later, they were pleased to be returning to the mountains. Their verdict of Delhi was that it was too hot for a man from the hills ; it might be all right for a rich man but a poor man was better off in the mountains.

Both of them were in tears as we said good-bye. We had walked over 300 miles together, crossed five high passes and climbed a peak with them and we were equally sad at the parting. With lumps in our throats we drove to Amritsar and the Indo-Pakistan border.

Lahore was now green and cooler than on our last visit. The monsoon had caused a good deal of flooding north of the city. Through Rawalpindi, Attock Bridge and on up the Grand Trunk Road we drove to Peshawar. How thrilling it was to motor up the legendary Khyber Pass and follow the sparkling Kabul river to Afghanistan and to Kabul, its capital. A suitable camp site was made available for us by the Afghan Government on the lawn outside the Government News Agency.

Unfortunately we were unable to linger for long in this historic city, a veritable oasis in the barren mountains, and had to drive south over an atrocious road to Kandahar. Each night a camp site was provided for us by the police, in a walled compound, and an unfortunate policeman was often ordered to guard our tent all night. In every village our passports were checked. Obviously news of our departure had been telephoned to the next village for we were always expected. An English-speaking Afghan showed us the beautiful mosque of Herat and told us much about the history of this ancient city. Again, time limited us and we had to move on. We were told that we were probably the first females to have crossed Afghanistan unescorted by men. Afghani women never travel without a male escort.

In Teheran we again met friends whom we had made on the outward journey, and we were the guests of Mr. T. Kaul, the Indian Ambassador, whom we had met in Manali where he had been on leave. He arranged a permit for us to drive over the Elburz Mountains to the Caspian Sea military area and up to Astara, near the Russian border. It was wonderful to leave the heat and dust of the desert and cross the mountains to a land as green and lush as England. Late at night we crossed the tortuous mountain passes to Tabriz and camped some fifty miles beyond. The next day took us across the Iranian-Turkish border and back to the smoother gravel roads of Turkey. Back through Ankara to Istanbul and then on

through Greece, Yugoslavia, Austria, Germany and Holland. On a bleak misty morning in October, five months after leaving home, we watched our Land Rover being landed by crane from the ferry-boat at Harwich.

Altogether we had driven that reliable vehicle through twelve countries and over 16,000 miles. Not once had the engine faltered. We had no punctures on the outward journey and only three, one in Afghanistan and two in Iran, on the homeward journey. Often the going was hard, hot, dusty and uncomfortable, but with a great deal of help and a large dose of luck we had succeeded in all our original aims. We had crossed the Inner Line. We had reached Padam. We had crossed Afghanistan. We had even climbed our peak. But these are the sort of achievements that any expedition should be able to claim.

They were as nothing, to us, compared with the friendships we made in the lands through which we passed. So many expeditions have little time for getting to know the people who live in the Himalayan valleys. It is our great pleasure that we were able to find time to make so many friends, especially in India, Pakistan and Zaskar itself. No doubt mountains and geographical explorations are important. However, much of the Himalaya has now been extensively explored and one hopes that future expeditions can find more time to get to know the delightful people who live in those mountains.

SURVEY OF KASHMIR AND JAMMU, 1855 TO 1865

By COLONEL R. H. PHILLIMORE, C.I.E., D.S.O.

(late Royal Engineers and Survey of India)

(Reprinted from the JOURNAL OF THE INSTITUTION OF SURVEYORS)

IN 1855 Lieutenant Montgomerie of Engineers was given charge of a party of the Great Trigonometrical Survey for the survey of the territories of Mahārāja Gulāb Singh of Jammu.

Gulāb Singh, a Dogra chief, had been Rāja of Jammu since 1820 in the days of the great Sikh ruler Ranjīt Singh. He was ambitious and enterprising. After the British defeat of the Sikhs in 1846 he was granted possession of Kashmīr which had been a province of the Sikhs since 1820.

There had been many attempts to put Kashmīr on the map from travellers' tales, but the first serious contribution had been Trebeck's surveys between 1820 and 1823 when he accompanied William Moorcroft on his long journey to Bukhāra. Moorcroft had been held up for two years in Ladākh waiting for a chance of travelling through Yārkand, and when that eventually proved impossible, he made the journey down through Kashmīr and on by Peshāwar and Kābul.

Following the treaty of Lahore in 1846 a political mission was sent up to lay down a boundary between British territories and those of Gulāb Singh, and rough sketches were made by Alexander Cunningham of southern Ladākh, Spiti, and Lahaul. The following year he led another mission to determine the outer frontiers of Gulāb Singh's possessions towards Tibet and Sinkiang, and a rough map of the Ladākh area was made by Henry Strachey.

At this time also the Great Trigonometrical Survey had started a major chain of triangles along the lower hills from Dehra to Attock, and had formed a special party for the topographical survey of the mountainous area between Garhwāl and Chamba. Magnificent work had been done running chains of triangles through the deep gorges of the Sutlej, the Spiti, and the Chandra-Bhāga—or upper Chenāb—across the great ranges into Kulu and Lahaul, and across the Bāra Lācha La. After six years of strenuous work in the mountains the party was well keyed up for the survey of Kashmīr, with a grand team of seasoned signalmen and khalāsīs. Led by William Johnson, who had established himself

as a bold mountain surveyor, the party marched up from Dehra Dūn to meet Montgomerie at Amritsar at the end of February, 1855. Gulāb Singh had already given his cordial assent to the survey and mapping of his territories.

Montgomerie had joined the Great Trigonometrical Survey in 1852 and had been on triangulation in the Punjab and on the measurement of two base-lines. His immediate task was to set out a chain of triangles starting from the main series about 20 miles east of Jammu, and to work it across the Pīr Panjāl range to the Kashmīr valley. The peaks of the Pīr Panjāl rise to over 15,000 ft., and carry a heavy crown of snow well into June. Fresh falls of snow were frequent, and the surveyors had to work in wintry conditions right through March and April. They had to camp several days at a time on each summit, building platforms and masonry pillars, and huts for the signal parties, and waiting for clear views.

After selecting the first stations himself, Montgomerie sent Johnson ahead to lay out the advance triangles whilst he and Douglas, who had only joined the survey within the past year, went back to start theodolite observations. Montgomerie decided to dump the large two-foot theodolite as being too cumbersome for work on the mountains, and he worked with a reliable 14-inch. Observations were taken to heliotropes worked by the signal squads camped on the surrounding peaks, and Montgomerie writes of the thrill of spotting 'the bright point of light shining from the apex of a noble snowy cone'. When clouds prevented the use of heliotropes by day, observations had to be made to lamps at night. He made a point of keeping his observations and angle-books with the most meticulous refinement, up to the highest geodetic standards.

Johnson had a stiff task on peak Munt Mal, 14,336 ft. above the sea, making his climb of over 7,000 ft. through heavy snow in one day with all his men. Most of them suffered from headaches and snow-blindness from the glare, in spite of shading their eyes with fir-tree twigs. They dug first through the highest crest of the snow without touching ground, but had better luck at a lower point where they found rock eleven feet down. Clouds came over charged with electricity which made their hair and clothes crackle and spark most unpleasantly. Snow had to be melted for all their water, whether for drinking or for mixing the lime mortar for the masonry pillar. Johnson had in all to spend more than two weeks on the peak, building platform and signaller's hut, and then taking theodolite bearings in the intervals between

clouds and snowstorms. He left a signal party of four men under Daffadar Moli, who did such noble work with heliotrope and lamp for the next two months that the peak was dubbed MOLI hill station on all the charts. His heliotrope was always to be seen so long as there was the faintest gleam of sunshine on the peak, and at night his lamp was always well trimmed and bright.

Montgomerie and Douglas had similar trouble with electric discharges, and rigged up a portable lightning conductor from crowbars and other tools. When Douglas put up his umbrella to keep off some extra large hailstones there was an alarming crackling which changed to a terrific humming when he closed the umbrella again. The daffadar had his hair set alight and a lamp box was torn open. But there were fine spells when gorgeous views of the mountain ranges opened up, and the surveyors had the joy of recording the bearings of the great peaks, such as Haramukh, Nanga Parbat, and Nun Kun, or Ser Mer. From these first observations and preliminary computations Montgomerie made Nanga Parbat about 25,700 and Nun Kun 23,400 ft. and he was amazed to find them so very much higher than any of the earlier geographers and travellers had suggested. Both had till now been put down as about 21,000.

When they moved forward to Moli, they came in at once for a terrific hailstorm, with lightning and thunder on the very peak as it were. The small iron stove crackled in the most unpleasant manner, and the little dog's hair crackled and sparkled. But the heavy snow blocked up the slits of the tent and kept them warm at night. The next morning cleared with brilliant sunshine and a grand view of the Kashmīr valley and even a sight of the houses of Srinagar through the telescope. For more than a week they had to stay on the peak going backwards and forwards between their living tent and the observatory platform and observatory tent, having to cross a narrow neck of snow with just enough room for the feet, and a precipice on either side, especially tricky at night by the light of a lantern, with the trodden snow all frozen and slippery.

By the middle of July they brought the triangulation up to Srinagar where they took three weeks' rest before starting out once more. This time Johnson ran a minor series of triangles up the Lidar through Pahlgām into the land of glaciers and high peaks, and back to Srinagar down the Sind River. After several weeks' delay from the rain Montgomerie finished off his observations near Srinagar, and then took Douglas to explore the route down the Jhelum to Murree and back. During October and November the whole party marched back to Dehra, some travelling by the Pir

Panjāl Pass and others by the Banihal, and there they spent the cold weather months on computations and sketch maps, and in preparation for the coming season.

For 1856 three more assistants were posted to start secondary triangulation to provide points for half-inch detail survey. Shelverton, the only one with previous experience, worked northwards through Kishtwār on the eastern borders; Brownlow spent two months with Montgomerie before starting independent triangulation down the Jhelum valley, whilst Beverley took over as recorder on the main triangulation, relieving Douglas who started a branch series over the Zoji La towards Drās.

Three young military officers were posted for plane-table survey and after instruction by Montgomerie took up detail survey—half-inch scale—at the east end of the valley, Lumsden sketching part of the glacier area at the head of the Lidar.

In addition to some secondary triangulation Johnson laid out the forward stations of the main triangles northward towards the Deosai Plains, and after starting off all the various detachments Montgomerie himself completed observation of the main triangles at the west end of the valley across the Wular Lake. Observing from Haramukh in September he got rays to several peaks on the Karakoram Range, dubbing the two most conspicuous as K¹ and K². He did not get another view of the range that year, and it was not until July and August the following year, 1857, that Brownlow got intersections from three stations further north and found K² to be about 28,000 ft. above the sea, with K¹, or Masherbrum, some 3,000 ft. lower, though far more prominent from the south.

For season 1857 the topographical section was strengthened by four young survey assistants, and three new military officers posted in place of those of the previous season who had been recalled to military duty. Several weeks had to be spent at the beginning of the season on the instruction of all the newcomers, and before October they had all done useful areas of plane-tableing in and around the valley.

Johnson spent season 1857 laying out and preparing the stations of the main series across the desolate Deosai Plain to the north, fixing his forward stations astride the Indus River near Skārdu. Brownlow took over the main observations and carried them forward to just short of the Indus, getting successful bearings to the Karakoram peaks. On his work being stopped by winter conditions, he was released to military duty and hurried off to join the army at the siege of Delhi. His accidental death at Lucknow in the following March was a great loss to the survey. Another sad

accident occurred towards the end of the season when Douglas, a most promising young surveyor, was killed in a shooting accident at Srīnagar.

Montgomerie himself was kept at headquarters at Srīnagar right through the summer looking to the needs of his numerous detachments. The Mahārāja was dangerously ill, and died on 2nd August, and Montgomerie was greatly relieved to find that his son Ranbīr Singh was just as friendly towards the survey. The situation was particularly uncomfortable because of the mutiny that had broken out at Meerut in May, but it all seemed very far away, and the Kashmīr survey went forward without any interference. It was during this summer that Montgomerie sketched the magnificent coloured panorama of the Pīr Panjāl viewed from the Takht-i-Sulaiman at Srīnagar. The party reassembled at Dehra Dūn in December for the short recess that was fully occupied by computations and mapping.

The three military officers were the first to start out again, and in February, 1858, they took up detail survey in the lower country round Jammu, moving to higher ground for the summer months. Good progress was made in the eastern areas adjoining Chamba that Shelverton had triangulated.

Away in the north the main triangulation was extended up the Indus from Skāndu, Johnson taking the approximate series forward to Leh, and Shelverton following up with the final observations. Further shots were taken to K², and Montgomerie reported its height to be 28,287, overtopping Kānchenjunga and second only to Mount Everest. The main series was brought to a close just beyond Leh by Johnson in 1859.

By the end of 1858 the half-inch survey of the whole of the Kashmīr valley had been completed, and the fair map, largely the work of W. H. Scott and the draughtsmen at Dehra, was despatched to Calcutta at the end of May, 1859, and won enthusiastic praise in Calcutta and also in London where it was sent for publication.

Early in 1859 the few remaining gaps in the Jammu area and on the upper Kishanganga to the west were cleared up, and then the whole party was diverted to the triangulation and quarter-inch survey of Baltistān and Ladākḥ to the north. Whilst Johnson carried observation of the main series up to Leh, Beverley, Scott, and Neuville extended minor triangulation up the Indus and its tributaries to the south to provide points for the plane-tablers. Melville and Ryall, the only assistants available for plane-tabling this season, were sick for several months, but spent some of their

time at headquarters making a large-scale survey of Srīnagar town. Montgomerie himself made a long tour through southern Ladākḥ to inspect the triangulators at work. During July and August he reconnoitred the highlands of Rupshu as far as the Cho Morari Lake, 'a splendid sheet of water, perhaps twenty miles long . . . Rupshu consists of a series of lakes or the beds of what have . . . been lakes. From these, which are generally at or over 15,000 ft., mountains with tolerably easy slopes rise . . . to some . . . 19,000 ft. The lakes have become more or less salt. Fuel gets scarcer and scarcer towards the Chinese frontier . . . Near the Chinese frontier nothing except cow-dung was to be had, and the greatest care was necessary to select a place for encampment where Tartars had formerly been'.

For season 1860 there were fourteen assistants, six for triangulation, the rest for plane-tabling. One of the latter was Godwin Austen, who had been employed on plane-tabling in the lower country from 1857 till he had left in April, 1859, to rejoin his regiment in England. He now returned at his own request and spent 1860 and 1861 on plane-table survey of the western Karakoram, sketching the precipices and glaciers northwards from Skārdu up to K² itself, and then westwards down the Indus and up the Baltoro and Biafo Glaciers. He was a great mountaineer, and a beautiful draughtsman with an eye for ground. One of the large glaciers now carries his name on modern maps, but suggestions to give his name to peak K² have always been officially rejected though it is shown on many unofficial maps. Godwin Austen took no part in the fixing of the peak or the discovery of its great height. At the same time Ryall sketched the Shyok and Nubra gorges of the eastern Karakoram, and Bolst, the plains of Deosai.

During this same season, 1860, Johnson first closed the main series near Leh, and then ran a minor series along the Zaskar range which he connected the following season with the 1853 work of the Himalayan party at the Bara Lacha La. The junction showed remarkable agreement, with discrepancies of 0.63 inch (about 64 ft.) in latitude—0.28 inch in longitude—and 1 ft. in height. It was on this triangulation that Johnson fixed points along the 21,000 ft. crest running north of the Spiti valley. Two or three of his single unproved intersections were wrongly passed by the computers a few years later, and one of them giving height 23,050 from a single ray was actually shown on the maps. The best of triangulators may have a number of such single intersections but does not accept them till 'proved' by a third ray or by two heights in agreement. The so-called 'Shilla Peak' was no fault of Johnson's.

Montgomerie records that in working east along the ranges south of the Indus 'Johnson twice observed at 19,979 ft., and Beverley at 19,958. A trigonometrical mark was erected on a point 21,484 ft., but unfortunately there was not sufficient space to put a theodolite on it'.

In 1861 the plane-tablers followed into these highlands of Rupshu and Hanle, and Todd now proved the Tso Morari Lake to be 16 miles in length and from two to three miles in breadth. The many lakes teemed with duck and geese, and the slopes surrounding them were scattered with herds of Tibetan antelopes and the *kyang*, or wild horse. Melville sketched the great snow range from the Zoji La to the twin peaks of Nun and Kun, and their glaciers.

In 1862 numbers dropped to three triangulators and six plane-tablers. Johnson and Clarke worked east from Leh, to the north of the Indus, into Changchenmo, with orders to 'cover all the Mahārāja's territories east of longitude 78° and north of latitude 33° 45', and to fix as many points as possible in Chinese Tartary towards Ilchi, the capital of Khotan . . . You must be careful to prevent all collision with the Chinese Tartars on the common boundary'. The average height of Johnson's stations was over 19,800 ft., and he fixed several peaks on the Kunlun, the recognized limit with Khotan, one of them rising to 23,890 ft. They returned to complete this series in 1864, and on the return journey worked westward across the Shyok to reach the Yārkan road and the Karakoram Pass. Meanwhile during 1862 and 1863 Beverley extended triangulation westward to Astor, cutting in the peaks of the Haramosh range towards Hunza and Nagar. The surveyors were not allowed to visit Gilgit which had been occupied by the Mahārāja's troops from Kashmīr during 1859.

This western area was surveyed by plane-table during 1862 and 1863 by James Low at the same time that Godwin Austen and other plane-tablers worked east and completed the detail survey of Ladākh. Austen pushed to the furthest east, sketching the Pangong Tso and its string of lakes. In November, 1864, Montgomerie was able to report the completion of all survey 'of the dominions of His Highness the Mahārāja of Jammu and Kashmīr'. At the same time he asked that Johnson might be given one more opportunity to visit the north-east borders, to fix points and sketch detail 'in that vast terra incognita east of the Pangong Lake'.

Permission was given, and Johnson travelled up by Simla and Rāmpur to reach Leh on 17th July, 1865. There he received an invitation from the Khan of Khotan to cross the frontier and visit Ilchi. This meant crossing the British frontier, a breach of standing

orders, but he decided to accept the invitation without asking for permission which could not have reached him in time. An escort was sent to meet him, and on the way he climbed three of the peaks of the Kunlun, and sketched a wide area beyond. Unfortunately his board was wrongly plotted, and all his work was thrown out of position and had to be rectified on his return to Dehra. He stayed at Ilchi more than two weeks, making several excursions to the east, and then returned westward through wholly unknown country to cross the Karakoram Pass from the north, and reached Leh on 12th December. This remarkable journey brought an official rebuke, but was enthusiastically acclaimed by the Royal Geographical Society. Johnson was much disappointed at receiving no official reward and resigned from the survey the following year to take service with the Mahārāja of Kashmīr, who had offered him a salary of Rs.1,500 a month, or three times his survey salary.

The quarter-inch map of *Jammu, Kashmīr and Adjacent Countries* was completed at Dehra Dūn early in 1861. One copy was sent to London and lithographed in 1863 with the Srīnagar town map reduced to the one-inch scale as an inset. The Ladākh survey was published on the eight-mile scale at Dehra Dūn in 1868, and later included in the quarter-inch Atlas sheets.

WANDERING IN THE HIMALAYAS

By FUKATA KYŪYA,
A Member of Japanese Alpine Club

*Reprinted from JAPAN QUARTERLY, October–December,
1958, Vol. V, No. 4.*

THERE have been many expeditions to the Himalayas, but our party can have had few parallels. Its members, for one thing—an author, a painter, a photographer, and a doctor—were an unlikely crew. On all the tents we took with us was sewn the legend ‘Artists A.C.’ (A.C. signifying ‘Alpine Club’). The phrase, perhaps, concealed a certain pride: we might not be energetic climbers, but in our appreciation of the beauties of the mountains we were second to none.

The next oddity was our ages. Yamakawa Yūichirō, the artist, was 48. Kazama Takehide, the photographer, was 43. The doctor, Kohara Kazuyoshi, was 36, while the present writer must confess to 55. An average age of over 45. In any ordinary job, a man may be at his prime at 45, but for mountaineering he is an old man. I know of almost no case where a party of such ripe years has ventured into the Himalayas.

The third peculiarity was the comparatively little money we spent. The whole three months from the time we left Calcutta for the Himalayas until our return to Calcutta cost under Y300,000 (approximately \$830 or £300) per person. We lived, in other words, more economically than the man leading a fairly comfortable life in Tokyo.

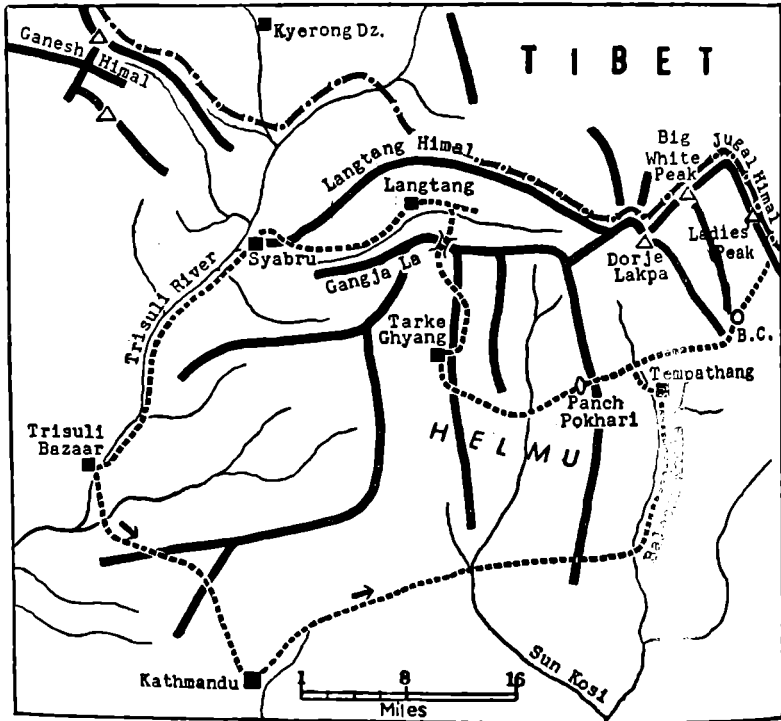
We set sail from Kobe, on March 2, on board the B.I.S.N. ship *Sangola*. We four were the only Japanese on the ship, but we were treated with every kindness by the passengers and crew, who even held a concert to wish success to our expedition.

We reached Calcutta in broiling heat on March 24. The equipment and food we had brought with us—approximately 2½ tons of it—was stored in the hold, and we were forced to hang about in Calcutta for more than a week before the unloading and the troublesome customs procedures were got through.

From Calcutta to Raxaul on the border of India and Nepal involved a sweltering train journey of about a day and a half. At Raxaul, we were joined by the Sherpas whose services we had previously engaged, and who had been waiting since their arrival from

Darjeeling the day before. These worthy fellows, indispensable to any Himalayan expedition, deserve a special mention of their own. Their names were Pasang Phutar, Lhakpa Tenzing and Dawa Thondup. The last named in particular is a veteran of the Himalayas, having taken part in a whole succession of famous expeditions ever since 1933.

At Raxaul we were forced to spend yet another, boring, week waiting for our baggage to come by freight train. In order to recover lost time, we went from Simla, near the border, to Kathmandu by plane. The trip occupied a mere 20 minutes, but it took us over the great jungle area of Terai, famous for big-game hunting. The air in the Nepalese capital, about 4,000 ft. above sea level, was refreshingly cool after the heat of India. Here was the starting-point for the Himalayas.



ROUTE FROM KATHMANDU TO KATHMANDU

We first reported to the Nepalese Government, went through the prescribed formalities and paid the necessary royalty of 1,000 rupees. Next we made contracts with the porters and set about buying the stocks of goods necessary to take with us in caravan. One of the

things which kept us most busy was dividing up our $2\frac{1}{2}$ tons of baggage into lots of 30 kilograms, the share for each porter.

We found we should need 80 porters in all. When to these porters were added ourselves, four in number, the three Sherpas and our liaison officer, Amatya, we had assembled a vast company of close on 90 souls.

On April 17, the morning of our departure arrived at last. At 9-30, the army of porters bearing red, yellow, blue and white packs, coloured to distinguish their contents, formed a long single column under the direction of the Sherpas and set off from Kathmandu. During the next eleven days until our arrival at Base Camp the party trudged along mountain paths too narrow for two to walk abreast. All the time we went either up or down ; there were almost no level stretches. The heat of the day was terrible, and clouds of dust arose from the parched red earth. Occasionally by the wayside there would be a tree with widespreading branches, under whose cool shade we and the porters would stop with the same relief to take rest.

The march in caravan, which is an inevitable forerunner to any climbing in the Himalayas, is said to be an ideal opportunity for getting the body in trim. Nothing could be more true. Thanks to our march to Base Camp, up hill and down dale without a day's rest, we began to develop muscles of steel. The foothills reaching out from the Himalayas stretched on before us, range after range, as far as the eye could see, each of them terraced from base to summit. Even the highest places were cultivated, in silent witness to man's perseverance.

On the morning of the fifth day of caravan we had, as we reached the top of a certain pass, our first full view to the north of our goal, Jugal Himal. It was a magnificent sight, glistening with its cover of snow and ice. Thenceforth our route took us along the Balephi river, which flows down from Jugal Himal. The road wound its way high up along the flank of the mountains on the left bank ; on the lofty stretch of hills, separated from us by a deep valley, that formed the opposite bank, the terraced fields stretched up almost to the summits, while here and there were groups of houses on slopes so high that one wondered why they were not too inconvenient for anyone to live on at all.

When we reached the last hamlet, Tempathang, however, the terraces finally came to an end. The increasing milky cloudiness of the river water proclaimed that we were at last approaching the Himalayas, for it was a sign that glaciers were near at hand. We struck our tents on the dry river bed at Tempathang. That evening a swarm of the village children came to see us and danced Tibetan

dances for our benefit. We were utterly charmed by the sight as, all with a vast seriousness, they danced in a ring to a monotonous melody played on the mouth-organ by one of their number.

We took three days from this last hamlet to Base Camp, during which we passed through forests of rhododendrons in full bloom. The flowers, in scarlet, white, pink and a host of other shades, formed a seemingly never-ending tunnel through which we passed. At a height of about 11,000 ft., however, the forest petered out and there followed an Alpine zone of small shrubs and rocks only. The thing that delighted us most here was the pale mauve primulas that covered the ground.

The site of our Base Camp was about 13,000 ft. above sea level. Right near by, there were the traces of the Base Camp of the English expedition that had come the previous spring, and the ground was still littered with wrapping paper from food and the like. The thing that most moved us was a copper memorial plaque let into a rock just to one side of the site. Captain S. T. W. Fox, leader of the expedition, together with two Sherpas, had lost their lives on the glacier when they had been swept into a crevasse by an avalanche.

April 30, the third day after our arrival, was the anniversary of the tragedy. We marshalled the whole company to pay our respects at the plaque, before which we placed a large dish of primroses which we had picked, and stood awhile in silent tribute. The Sherpas were muttering repeatedly to themselves the *Om mani padme hum*, the Buddhist invocation. The morning was bright and clear, and immediately before us rose with startling vividness the awe-inspiring form of Phurbi Chyachu (21,844 ft.) with its mantle of snow and ice. Our tribute over, still no one made to move from the spot for some moments. Lhakpa Tenzing decorated the edge of the plaque with primulas from the dish, and scattered the remainder before it.

On Jugal Himal, two glaciers flow down toward the south, the Dorje Lakpa Glacier and the Phurbi Chyachumbu Glacier. Our first plan was to go up the former, and the main party set out to investigate it. The other party, however, brought back the report that the latter was far easier to tackle, so we decided to abandon the Dorje Lakpa Glacier and concentrate all our energies on the Phurbi Chyachumbu Glacier.

By May 4, the very next day after we returned to Base Camp from the Dorje Lakpa Glacier, we were already on our way to the

Phurbi Chyachumbu Glacier. The steep mountain ridge of ice and rock forming a barrier between the two glaciers, we named Central Ridge. Base Camp was on the east slopes of these mountains, just where the Central Ridge peters out to the south. We traversed the slopes on the east side of Central Ridge, and set up first camp. From here, we could look down on where the Phurbi Chyachumbu Glacier dropped away in an icefall.

We spent four nights at first camp, prevented from going ahead as we had hoped by bad weather. In the morning, the skies would clear for a brief spell, but it would soon cloud over and, inevitably, snow would fall—a fine, dry, hail-like kind of snow. As we lay in our tents, we could hear it rustling as it ran down off the canvas.

On May 8, we at last went ahead to second camp. To do so, we had first to go down to the foot of Phurbi Chyachumbu Glacier, then set off up the glacier itself. Its steep slopes were a riot of splits and cracks, and innumerable crevasses yawned over its surface. If one peered down into them, all one could see were walls of green ice dropping down to bottomless depths. Dawa Thondup, with his long experience of the Himalayas, went first and found a way for us across this complex and dangerous terrain. Once, when we came to a crevasse which we absolutely must cross, the metal step-ladder that Kazami, the photographer, had brought for taking photographs served us as a bridge.

At last we came out on top of the glacier and set up second camp. That day clouds and the subsequent snow restricted visibility, but the next morning was magnificently clear, and we could see all the way up the glacier. With its covering of snow, it stretched upwards, gently sloping, in the form of a snowfield. We should be able to climb it, it seemed, without danger or difficulty.

The porters who brought the baggage as far as Base Camp had been dismissed there, though we selected five of their number who seemed strong and of pleasant disposition to help out the Sherpas. Under the direction of Pasang Phutar, they spent day after day carrying goods from Base Camp to advanced camps.

It was May 10 when we moved on to third camp. We climbed from second camp up the broad, gentle slope of the glacier. The heat from the direct rays of the sun, plus reflection from the snow, was excessive; we took off our jackets and rolled up our shirt sleeves, but still we were hot. There was not a breath of wind. The mountain ridges that barred the way on both sides of the glacier shut in the heat as in a Turkish bath.

On the Central Ridge to our left, we were treated to the spectacle of frequent avalanches. The new snow that had fallen since noon

the day before would now, under the direct rays of the morning sun, go gliding smoothly down the steep rock face. Some would rush straight down like a stick, some would split into countless threads as it fell.

The lofty barrier to our right was the mountain ridge which includes Phurbi Chyachu as its highest peak, and beyond which lies Tibet. Along the edge of the ridge, a fine snow mist was rising, suggesting that fierce winds were blowing there constantly. From this side, too, yet another avalanche came tumbling. The glacier was wide, and there was no danger to us as we went up the centre of it. Only the spray from the avalanche beat against our faces in tiny grains.

At the third camp we again suffered from bad weather. The only clear spells were two or three hours in the morning, to be followed immediately by clouds and snow. Every day it fell, till even the Sherpas declared that years with such continuous snow were rare.

As one gazed up the glacier from our camp, a pyramid-shaped mountain rose up directly ahead. The British women's expedition that climbed Jugal Himal for the first time in 1955 named this peak Ladies' Peak. The glacier skirts the base of the peak and bends round to the left. Right at its very source are situated Big White Peak (23,240 ft.) and Gyalgen Peak (22,000 ft.), the two highest on Jugal Himal. Both these peaks were named by the British women's expedition, but the peak on which these intrepid ladies succeeded in their brilliant ascent was Gyalgen Peak, and Big White Peak still remained unconquered.

Our own target was this highest peak. When I first planned this trip to the Himalayas, I had had no such ambitions. In view of my own age and capabilities, I thought it would be quite sufficient to make a round tour of the Himalayas, which I had so long yearned to see, and to admire the views they had to offer. Before we started, thus, I made no declaration of any intention to make the first ascent of this main peak. My only idea was that we might try it if it seemed possible. Looking back on this now, I can see that the half-hearted, 'try-it-if-possible' approach was no good for a mountain of over 23,000 ft. in the Himalayas. If only we had been firmly resolved to climb it, come what may, we ought to have found some different strategy. For instance, we should have returned to the Base Camp and rested for a few days until the weather recovered, then made a fresh attack on the peak. We had other plans to follow, however. We intended to go on to Langtang Himal, and could not afford to spend all our time on Jugal Himal.

We spent six days in all in bad weather at the third camp. During this time, we took advantage of one of the brief fine spells in the morning to climb to the top of the mountains on the Tibetan border. This was the highest point our party reached during the trip. We gave up all idea of scaling Big White Peak. In order to climb to the top, we should have had to bring up a further week's supply of food from the Base Camp. We had neither enough supplies nor enough personnel for further assaults. What was more, we had no idea when the weather was going to improve. We were loath to give up when we had come so far, but we had already had our fill as far as Jugal Himal was concerned, and it was without any undue sense of tragic failure that we decided to retrace our tracks.

On May 17, we returned to the Base Camp after an absence of two weeks on the glacier. Here the scenery was already spring-like, the snow had all disappeared, and the ground all round was covered with Alpine plants in bloom. We shaved off our growth of beard, wrote reports, put our baggage in order and waited for the porters to come up from the village below. It was a week later that we set foot on the road to Langtang Himal, the second of our two destinations.

On May 23, we quit the Base Camp. During the past month, we had grown used to Jugal Himal towering above our heads, and the thought that we should probably never see it again made us turn again and again to gaze at it regretfully as we made our way down the slopes. We went down into the valley of the Balephi river first, then began climbing the mountains on the opposite bank. It was a climb of about 6,500 ft., and a succession of steep slopes from the start. After two days' climb we reached Panch Pokhari ridge. Panch Pokhari means 'five lakes' and, true to its name, there were five small lakes of clear water scattered about the area. We set up our tents by the side of the largest, at a spot of unforgettable beauty.

We had been planning to approach Langtang Himal along the ridge of the mountains. At this point, however, we met with opposition from the porters. They had neither boots nor snowglasses, and complained that without proper equipment they could not go along a steep mountain route with so much snow. We discussed the matter for many hours, at the end of which we decided to give in to their views.

We made up our minds instead to cross the Gangja La Pass and enter the Langtang Himal valley. To reach the pass, we had to go through the Helmu area. According to Amatya, our liaison officer.

the area has the finest natural scenery in the whole of Nepal, as well as being richest in female beauty. Both alike were a major attraction for this particular band of pilgrims.

Leaving Panch Pokhari, we descended into a deep valley, then once more climbed up and up till we were sick of climbing, and in the afternoon of the fourth day reached Tarke Ghyang in the centre of the Helmu area. Here, there was a close huddle of about 100 homes, each with its pole flying a white banner. On the banners were printed in tiny letters passages from the sutras.

No sooner had we pitched our tents in a pretty meadow a little outside the village than a large number of the inhabitants descended on us, and the meadow took on the lively aspect of a local festival. Thanks to this, we were able to discover a few approximations to those beauties we had been secretly hoping for. They were only to be found, however, among the young and innocent maidens, the rest being displeasing in proportion to their age. Worst of all, the majority of them had great wens on their necks. This is a local disease often to be seen in the Himalayan region. What a cruel trick, I reflected, for the gods to play on women, whose chief pride is their looks.

To get to the pass of Gangja La, a path led from the village up the mountains to the rear and along the ridge of the mountains. At Tarke Ghyang, we divided the party into two. We ourselves headed for the pass with the three Sherpas and 15 of the strongest porters, while we sent the rest of the porters under the direction of Amatya directly back to Kathmandu with the baggage of which we should have no urgent need.

From Tarke Ghyang to Gangja La was a journey of four days—four delightful days as it proved. For one thing, we had hitherto had too many porters, and we felt incredibly unencumbered and carefree now that we were a small group of only 22 in all. Here was the ideal type of Himalayan trek that I had long been picturing to myself.

The party made its way along the mountain ridge 14,000 ft. up. At one time, we came to a beautiful meadow carpeted with flowers of all hues, where there stood a *kharka*, or herdsman's hut of stone, completely in keeping with the Himalayan scenery. The season was too early for pasturing, however, and the hut was empty. On another occasion, late one clear afternoon, we stood in front of our tents and gazed at the distant chain of peaks that was the Himalayas. The chain stretched, it seemed, without end and behind it rose layer upon layer of further mountains. Yet another time, we came out quite unexpectedly on a spacious, plateau-like slope, a vast tilting

of the earth such as we had never seen in Japan. The men who led the way ahead seemed little larger than ants. Then, finally, we reached a point just before the pass, where we pitched our tents. In the afternoon of the same day, snow began to fall. With its covering of fresh snow, the scenery became still more beautiful.

The day we crossed the Gangja La Pass, the weather was as fine as we could have wished. At one o'clock in the afternoon, lagging behind the rest of the party, I stood alone at the top of the pass. Before me stretched all the snow-capped peaks of Langtang Himal. The sight took me off my guard with its beauty. So magnificent was it that for a while I could do nothing but gaze, oblivious to everything else. I had never foreseen that so many fine mountains would be gathered together in Langtang Himal. Countless peaks, each asserting its own individuality, succeeded one another, piled on one another, stretching as far as the limits of vision.

Gangja La, according to the four-miles-to-the-inch map of the Indian Survey Bureau, is 18,450 ft. high. Tilman, the authority on the Himalayas, has it in his book as 19,000. Unfortunately, however, the needle of the Japanese altometer we took with us registered only some 16,000 ft. One wonders which height is the true one. I, of course, put my faith in the Japanese instrument!

The next day we went down into the Langtang valley. Doctor Hagen of Switzerland has extolled this valley as one of the most beautiful in the Himalayas. I could agree with him. On both sides of the valley, ranged sharp, snowy peaks, while at its bottom the river rushed down its broad bed. This on both sides consisted of meadows where Alpine flowers bloomed and herds of cows and yaks grazed.

Wishing to see more of this beautiful valley, I took one porter and climbed upstream. Some way up, there was a *gompa*, and a group of lamas reading the sutras. Near by were pleasant pasturing grounds, where a Swiss had settled and was making butter and cheese. I was struck by the intrepid pioneering spirit of this man, who could venture quite alone into this remote spot, so cut off from civilized society. He gave me a warm welcome, and fed me with yak's milk and Tibetan tea. Seated in two crude chairs in the open, we talked for close on two hours, more as though we were old acquaintances than strangers from foreign lands. There were two huts—one a simple factory, the other a storehouse for the farm's products. He himself lived in a small white tent he had put up near by. As I glanced at my watch and made to get up, he said, 'I lost my watch long ago. There's my watch now.' And with a smile he pointed to the sun. His name, he told me as we parted, was Josef

Dubach, Käserei Werligen, Neuenkirch, Luz., Switzerland. From there, I went to Langsisa, about ten miles upstream. There was nothing but five or six uninhabited *kharkas* or stone huts scattered around the area, but for me it was an immense satisfaction just to see the snout of the glacier covered with moraine.

The next day, we went down the Langtang valley. For about twelve miles from the village of Langtang to the next village, we passed between bushes covered with blossom, through sunny forests, by frequent *chortens*—the stone stupas of Lamaism—with waterfalls here and there in the lofty cliffs to each side and, above the cliffs, the peaks with their pure white snow sparkling in the sun. We walked in a state of unbroken ecstasy.

From the Langtang valley we went down a long incline, and finally came out on the bank of the main stream, the river Trisuli. Above the slope to the north-west we could see between the clouds three white peaks—a part of Ganesh Himal, perhaps. Our return route took us along the side of the mountains parallel with this Trisuli river. The route is an important highway linking Nepal and Tibet, but in its ups and downs and its narrowness it was scarcely any different from the other paths we had already traversed.

After three days' walking along the flank of the mountains, we descended again on the fourth to the banks of the Trisuli. The Trisuli Bazaar valley was unbelievably hot. Bananas were ripe on the trees, and the yellow flowers of the cactuses were in full bloom. To get back to Kathmandu from there, we had one more mountain to cross. We crossed it, gasping in the heat, and on June 11, two months after our departure, arrived back in Kathmandu. To us, burnt black by the sun, our pores clogged and itchy after so long without a bath, it was indeed a return to civilization.

A SMALL EXPEDITION TO GANESH HIMAL

By P. J. WALLACE

MY original plan for 1960 was to attempt an ascent of Trisul and the first ascent of Bethartholi Himal in India. However, I was unable to get permission and it became necessary to find a suitable mountain at the last moment. In discussion with the Sherpas Pa Norbu and Gyalzen, it was decided to travel to Kathmandu with our equipment and seek permission to climb on Annapurna IV as Pa Norbu had been on that mountain with Tilman's party in 1950, and we thought that we had a good chance of climbing it. We were informed that Robert's party were climbing Annapurna II, and that the route was thought to follow the Annapurna IV route and we could not be given permission unless Roberts had been consulted. This consultation could not take place as that party had already gone to their Base Camp. Colonel Proud, of the British Embassy, suggested that we should try Ganesh Himal, and showed me Tilman's account of his visit to that hill, which indicated that the SW. ridge would offer a straightforward route if it could be reached. With the help of Mr. Naja Man Singh, Under Secretary to the Ministry of Foreign Affairs, Colonel Proud and Mr. Pradhan, Hon. Secretary of the Himalayan Society of Nepal, formalities were completed quickly, and on the 25th April I was given permission to go to Ganesh Himal.

On the 26th April, the party consisting of myself and the Sherpas Gyalzen and Pa Norbu, who had been with me in 1955 and 1958, and the Liaison Officer, Mr. A. P. Raya Maghi, the Sherpa Rinsing, and eight coolies, left Kathmandu. We marched to Chilime in six days, passing through Trisuli Bazaar and Syabru. The weather was miserably hot until we gained some height. In a few places the track was difficult, with rocky staircases stuck on to steep cliffs. The local people tell of horses and sheep falling off, but not people. What we could see of the high mountains showed that there was no new snow, but that they were very iced up, which we thought would make climbing slow but safe from snow avalanches.

At Chilime we paid off the Kathmandu coolies and engaged local men to carry our equipment to Sanjen, a high valley pasture for yaks and sheep, which is the way on to Ganesh Himal. There are routes to Sanjen on both sides of the Chilime Khola, which are used when the sheep are brought up in the monsoon, and another short

route following the river line, which the local people rarely use as there are few occasions to take a man to Sanjen, unless he is taking animals to graze on the hills. We had decided to follow the river line as in discussion and from the accounts of Tilman and Lambert we knew that hill tracks would have a great deal of snow on them. We were surprised when, on the first day, the nine local coolies said that we should go over the southern hill route. We reached Sanjen in four days instead of the two we had expected. On this southern route we went over a pass about 15,000 ft. high, and we, the climbers, had to wear our high altitude boots and lend our approach march shoes and mountain boots to the coolies. Even so there was no footwear for one man and two others preferred to go barefooted. The 6th May was, for me, a nightmare march. The western slope of every ridge had snow on it and we had to stamp out a track, or cut steps, and place a fixed rope for the coolies. When at last we got down off the snow in the late afternoon, I treated all the coolies for snow-blindness, as some were complaining of headaches. There were no ill-effects. However, when the coolies were paid off at Sanjen they chose to go back by the river line. We established Base Camp on 7th May. At this time, in spite of the fact that Ganesh Himal filled the head of the valley, we only saw it for a few minutes as it was covered by clouds.

On the following day Gyalzen and Pa Norbu and I went up the Sanjen Glacier and identified the route used by Lambert's party. To reach Camp I it would be necessary to climb over ground threatened by ice-fall. The couloir beyond Camp II looked terribly steep. It was immediately evident that to reach the SW. ridge was impossible. The route was by a SE. ridge up to 20,000 ft. and after that there were alternatives.

By the 11th, Advanced Base Camp had been established at the Sanjen Glacier, and I went up alone to examine the dangerous ground in front of Camp I. At this time there was little sign of recent ice- or stone-fall, but the place was potentially very dangerous. On the following day the three Sherpas and I made a carry up to Camp I at 16,500 ft. There is only one good place for tents there. Lambert's tomb, which is marked with an inscription and carved cross. The Sherpas went down to bring up more stores and I remained. The next day the camp was in cloud and as the Sherpas returned I was able to guide them in.

On the 14th, we four climbed up to Camp II at 18,700 ft. On the way, on some steep ice, we found a fixed rope from 1955. We made the camp in thick cloud. It was decided to leave the Sherpa Rinsing here and climb up the couloir with one tent the following day, and

try the summit, leaving the Assault Camp in the small hours of the 16th. This was because the mountain was now in good condition but the weather was deteriorating. I realized that rushing so high a mountain would be difficult, but the couloir now just above us was very steep. Unhappily there was thunder and snowfall all night. We decided to spend the day in camp and watch developments. The night of the 15th was clear, although the dawn of the 16th was cloudy, and we decided that much of the couloir was too steep to allow any great depth of snow to bind on it, and we started up. Quite soon we were hit by the edge of a very fast, but small, snow avalanche. We followed the true right side of the couloir and by 5.30 p.m., after a great deal of very steep climbing on snow, ice and rock, we saw through a gap in the clouds that we were close to the crest of the ridge but that there was very difficult ground just ahead. All day we had seen nowhere that we could pitch a tent and so we cut a cavern in the ice and by an hour after dark we pitched the tent. It was held by a piton and our axes. There was not room to extend it laterally. Nevertheless, we spent a warm and comfortable night but were disturbed by the fear that if a high wind got up we would be in great danger. There was snow all night and the dawn of the 17th was one of thick cloud and snow, and we decided to go down. We left some food and kerosene at the place and fixed a hundred feet of rope in the ice. The climb down in the snow-storm was very difficult. The falling snow would not bind to the ice and came hissing past us throughout the descent, filling any steps that were cut. At one time a small ice avalanche swept through us, fortunately at a place that was not very steep. Both Pa Norbu and I were hit but neither of us was hurt. We found the Sherpa Ringing in good spirits at Camp II. The next day we climbed back to Base Camp in a snow-storm which turned to rain as we got down. A piece of ice fell on to the dangerous ground near us as we crossed. On the 19th we rested at Base Camp, and the next day the three Sherpas went back to Chilime to forage as we intended to wait for a change in the weather, if it would come, and make another attempt in the expected lull just as the monsoon broke. It was arranged that they should return after a week. I would remain at Base Camp and watch the weather.

During this time the weather never really cleared up, but in the occasional clear periods it was possible to see that in spite of the heavy snowfall no major cone appeared under the couloir although the hills thundered with the sound of avalanches.

On the 26th May the Sherpas returned with one coolie by the river line, with a supply of fresh meat and other stores. The following

day we moved up to Advanced Base Camp. In the morning the weather was fine, but from 5 p.m. to 9 p.m. there was rain and snow and the night was comparatively clear. The Sanjen Glacier, almost surrounded by mountains, thundered with avalanches.

On the 28th we sent the Sherpa Rinsing back to Base Camp and in eleven hours climbed steadily up to Camp II. The ground in front of Camp I was strewn with fallen séracs. There were signs of heavy snowfall and a rise in temperature. The tent we had left on Camp II was nearly buried in snow and we worked for an hour to dig it out. From 3 p.m. until dusk there was light snowfall. On the next day we rested and watched the weather. The weather was fine and so on the 30th we made an early start up the couloir, making this time for the true left side. As we crossed the mouth, pieces of ice and snow came whizzing past us and I was struck on the left hand by a small piece of ice which drew blood and made my hand and wrist swell. At the first halt I asked the Sherpas whether they preferred to turn back, but we decided to go on. Stone and ice continued to come down in quantities and the Sherpa Pa Norbu was struck heavily on his rucksack. Again I offered to abandon the climb, but the majority opinion was for going on. In time we reached a rock ridge on the left of the couloir, and we could see Lambert's pitons and fixed ropes skylined. This rock ridge changed to steep ice with occasional rock outcrops on it. At 4.30 p.m. we made camp on a ledge in the ridge at about 21,300 ft. We had left Lambert's route and taken the steeper but shorter ridge.

The night was bright with stars but towards morning there were terrific wind gusts. At 5.15 a.m. we started up the ice ridge. Here it was very steep but it soon gave way to easier angles. Mixed ice, snow and rock took us to the summit, the great snow dome visible from the Chilime valley, by 2 p.m. We saw another summit over a saddle to the west. This summit appeared to be higher by a little. We were very surprised to see it, as we had understood that the northern summit was the higher and it appeared to us that we were on the more northerly of the two. Much later, when looking at Peter Aufschnaiter's photographs taken from Kysong, it was decided that we had climbed the east summit and the other was the main summit climbed in 1955. In any event we could not get on to the other and back to camp. There was a cloud-bed low over Tibet, but I got photographs of some features above the cloud and was twice blown over from the kneeling position while doing so.

We climbed back to camp through the clouds. We then discussed plans for getting off the mountain. The Sherpas thought

that we might be killed by falling ice or stones in the couloir. I suggested looking for a route that would avoid it! Perhaps the route by which Eric Gauchat's body had been brought to Camp I. However, it was decided to throw the tent and purely high altitude equipment down the couloir and to climb down as fast as possible.

The 1st of June was windy with cloud and snow. We started down by 6.15 a.m. and at the head of the couloir, threw the tent down. As we left the rocks and climbed into the couloir one of my crampon straps broke. By good luck one of Lambert's fixed ropes was close at hand and we cut it to tie the crampon. While doing this we heard the whistle of falling rock and lay against the face. I was hit on the rucksack very heavily and winded. While this was going on Pa Norbu dropped a woollen glove which we later found 12 paces from the jettisoned tent.

We climbed on down the couloir at a terrific pace in cloud, wind and snow. There was only one more fall of ice and at last we came to the tent and the glove and were out of danger.

The next day we were away by 7 a.m. and after rushing across the dangerous ground under the ice-falls, where I skinned my hand and nearly passed a pile of boulders over myself, we climbed down on to the glacier where we met the Sherpa Rinsing, and the climb was over.

NORTH-EAST OF POKHARA

By GORDON JONES

THIS note is merely a follow-up to part of Mr. B. R. Goodfellow's article 'North of Pokhara' in *H.J.*, Vol. XVIII. It refers to ground probably also covered by the German Nepal Expedition of 1955, but it is not quite clear from their account (*H.J.*, Vol. XX, p. 77) which way they went in this region.

In September, 1957, I was in Pokhara on annual leave with a free fortnight ahead of me. On the 18th I set off with one Gurung, cook-porter, from Pokhara, heading for the Namun Bhanjyang, aiming to see how far I could get in the limited time available.

We proceeded directly to Siklis, arriving on the third day out, but, contrary to Goodfellow's experience there in 1953, caused no consternation and were regarded with only a mild and friendly interest. In the meantime the German and Japanese (Manaslu) teams had no doubt accustomed the villagers to foreigners. I did not need to use my letter of authority from the Bara Hakim (Governor) of Pokhara District. We were certainly not forbidden to go further, and next day went on down to cross the Madi Khola. On the map the track is shown on the east side of the Madi's eastern tributary, but by now that track was not in use, probably having been destroyed by landslides. The present track lay past the three-house hamlet of Bhakra Kharki straight up the steep and very long ridge between this tributary and the main upper Madi. Owing to the low level of the river this hillside is very extensive, and formed our longest and most tiring ascent of the trip. At the end of a full day out from Siklis we were still in the jungle and bivouacked for the night (without water), reaching open country at midday next day.

The ridge was topped by open hill pasture almost overhung by the tremendous south face of Point 22,921. With sheer ice cliffs all along its top edge, it was like cut Christmas cake. Avalanches frequently thundered down, particularly at night. We followed up the side of its *nala* over minor passes to further extensive pastures. I was intrigued by the shepherds' custom of leaving their fierce dogs to guard their huts, while the men and boys scrambled over the hillsides chasing the flocks—almost the exact opposite of sheep-farming practice in New Zealand. We continued up, trying to follow the supposed line of the map, but could find only goat tracks which faded out before reaching the steep parts. After a

day lost here, and on the instructions of local shepherds, we followed a small stream east-north-east up a long valley, to cross a rocky pass over the Sunder ridge which runs south-east from the Lamjung Himal. From here the track skirted several amphitheatres, gradually losing height, and then plummeted some hundreds of feet down an astonishing Jacob's Ladder of flagstones to a beautiful grassy alp, in a valley which fell straight down to the Marsyandi. This was very near the eastern end of the Lamjung Himal, although still on its southern side. The place was called Torju and was distinguished by a large overhanging rock providing a cave-like shelter big enough for about four. This meadow would be ideal for a rest camp, with a generous clear stream, a tiny lake, and fine views of Manaslu and Himalchuli. Even in September there were many flowers, mainly blue gentian, and small ferns.

After another lost day on precipitous grassy slopes, inhabited by pheasants, we went straight up the *nala* into a vast basin of moraine heaps like a great quarry, ringed by snow peaks. A little later the track turned due left up a slope steep enough for hand-holds, from the top of which we burst upon a view of the Dudh Pokhri, a lake whose milky blue was a distinct contrast with the blue of the sky. The track continued up some easy firm rock slabs, where grew some excellent specimens of *Saussurea*, and then disappeared over the edge of vertical rock towers.

At this point my companion said in English, 'Back straight to Pokhara', and I agreed. He was very willing and strong but not good at route-finding and seemed terrified of snow. Where the track went to I could not see, but presumed it followed the west wall of the basin round to a depression visible at its north end. Was this the *Namun Bhanjyang*?

We returned via the delightful village of Atigar to Pokhara, arriving twelve and a half days after setting out. If one knows the way, the 'cave' at Torju is four strenuous days away from Pokhara.

Weather was quite good throughout. Mornings were clear, with cloud on the peaks by about 10 a.m., while sunshine continued at lower levels. In the late afternoon there was often light rain, sometimes hail.

My main lessons were that the track to the *Namun* pass (that is, the only one which I could find, and which was confirmed by local shepherds) does not go uniformly north-north-east as the map indicates, but veers a long way east to surmount the Sunder ridge, and then from Torju proceeds in a north-westerly direction up to the Dudh Pokhri; and that it is used as far as Torju by shepherds but seemed very seldom used beyond that point.

DISTEGHIL SAR, 1960

By GUNTHER STÄRKER

(Translated by Hugh Merrick)

WINTER was drawing near as I stood, for the first time in six months, looking at the familiar face of our native hills, somehow grown fonder through long absence. Half-dreaming, I gazed up at the great precipices of the South Face of the Dachstein. But my thoughts went winging away to the greatest and most exacting peak I had yet climbed—to Disteghil Sar in the Karakoram. And the indescribable magnificence of what I had seen during that expedition of ours still seemed to be clothed in unreality.

It was in the spring of 1959 that the question was first mooted: 'Why don't the Austrian climbing clubs send a party to the great peaks?' 'No funds', came the answer. 'Surely that can't be an insuperable obstacle?' we replied. 'It might be worth trying.' And that was how it all began.

The Austrian Alpine Club reacted cordially to our approach and promised us all possible assistance. It was not until December, 1959, when we received our entry-permit from Karachi that we knew that there was no further obstacle to our great adventure. Our objective was finally settled.

There were only three months in which to collect funds, equipment and supplies. Wolfgang Stefan, who had been selected as the leader of the expedition, put in a fantastic stint of work to achieve this. Director Hiedler, who was really the originator of the whole project, placed himself unsparingly at our disposal and it was his advice and energy which showed us the ways and means which would otherwise never have occurred to us.

But our plans would never have come to fruition had it not been for the generous grants made by the Austrian Alpine Club and by the Ministries of Education, Commerce and Reconstruction; the considerable sums which poured in from Chambers of Commerce, the Union of Austrian Banks, from private donors; and last but not least the unselfish efforts of the Committee of the Austria Section, and indeed every section of the Austrian mountaineering fraternity.

The expedition consisted of Wolfgang Stefan (leader), 26; Götz Mayr, 26; Herbert Raditschnig, 26; Diether Marchart, 30, the 'baby' of the party; and myself, aged 25.

Himalayan Journal

We knew a good deal about our mountain. In 1957, a British party under Gregory had been the first to attempt it. They tried it by the savage south face, swept ceaselessly by avalanches, and had reached a height of about 21,300 ft.¹

In 1959 Raymond Lambert, leading a strong Swiss party to the foot of the magnificent peak, took one look at its face and said: 'That route is sheer suicide. We'll try the East Ridge.' They reached about 23,000 ft. and then had to give up, owing to the sudden onset of adverse weather.

We sailed from Genoa on March 30, by the *Victoria*, and arrived in Karachi on April 11. There we received a hearty welcome from Dr. Hartlmayr, the Austrian Ambassador, and Mr. Jaffer, the president of the Austro-Pakistani Cultural Association. After a few hectic days, we travelled by train to Rawalpindi.

Here, Colonel Goodwin, the host to so many expeditions, and his brother Bill gave us a cordial reception. Their home is set in a wonderful garden of colourful flowers, studded with orange and almond trees. We were introduced to our liaison officer, Mohammed Amanullah Khan, a very likeable twenty-three-year-old captain in the Pakistan Army. Having acquired an additional 2,000 lb. of food for the packers, we left for Gilgit on April 21 by the tremendously impressive Dakota flight.

'Chenar Bagh', belonging to the Gilgit Scouts, became our temporary residence. It was the prettiest spot in Gilgit, surrounded by innumerable trees and flowers-beds and hemmed in by debris-covered peaks and giant snow-summits.

Here, we were greatly assisted in our final preparations by the Political Agent Mr. Habibur Rheman. We paid a visit to the grave of Karl Heckler, the German climber who was killed in a fall in 1954.

On May 6, we set out for Nagar in six jeeps. It had rained for two days and the roads, just broad enough for a jeep and carved out of the precipice, often a sheer three to four hundred feet above the river, stretched our nerves to the uttermost. Less than 20 miles from Gilgit the rear wheels of the leading jeep, with Götz in it, bogged down in deep mud and the drivers went on strike. We felt it unwise to continue with this dangerous and unreliable method of transport, for the road had been completely washed away by waterfalls and landslides at some points. So two days later, we pushed forward with 61 donkeys and horses. Two days' march along a picturesque but perilous road brought us, by way of Chalt,

¹ *H.J.*, Vol. XXI, p. 108, 1958.

to Minapin (6,500 ft.). There were glorious views of Rakaposhi (25,558 ft.) and of Minapin, also called Diran (23,862 ft.).

The pleasant, fertile vale of Hunza, across the river, with its capital Baltit, made a lovely colourful picture, with countless apricot, peach and mulberry trees in full blossom along both banks.

We spent two days as guests of the Mir of Nagar.

On May 12, we moved on in lovely weather with 80 local porters, each carrying some 55 lb. I had to stay behind for a while. A local barber-surgeon with the help of four 'assistants' treated my hurt foot and it was four days before I was able to start off, with one of our high-altitude porters. Shortly after leaving Nagar we crossed a glacier and then moved up the valley over bare, sandy slopes, high above the Hispar river. On the second day we forded the icy stream and continued along its left bank over steep slopes of rubble. Near the source of the river, we crossed a rickety suspension bridge and reached Hispar (9,843 ft.), where we put up our tent and for the last time submitted to the gaze of the poverty-stricken inhabitants and their innumerable children. The weather had slowly deteriorated all day, and cold flurries of snow began to fall as we encamped.

On May 18, I caught up with my companions, who reported that they were still far from having established a Base Camp. When it began to snow on the previous days, the porters had jettisoned their loads and refused to budge. No amount of exhortation had any effect, so there had been nothing for it but to let them go and to set up a provisional base at 13,945 ft. This meant we had to carry our whole two tons of baggage, with the help of our four high-altitude porters, to our Base Camp site, 1,000 ft. higher up. Every day we humped loads of 55 to 70 lb. and the three hours or so of uphill work, on crumbling and icy moraine, proved to be the finest possible conditioning. On our daily trips we were always glad to take a breather at the remains of one of the Swiss camps and did full justice to the tinned ham Lambert and his men had left behind the year before.

We established Base Camp on May 21. We had got the bulk of the equipment and provisions up. The porters could bring the remaining loads up by themselves, while we made preparations for our assault on the mountain.

At first a blizzard raged incessantly and it was two whole days before we could take stock of our surroundings. Our objective loomed up in front of us. The natives call it Dastogail; a rough translation would be 'The marshy hand' or 'The snow-covered hand'. Certainly, the ice-armoured and snow-laden fingers of that chilly hand pointed down on us, repellent and attractive at the

same time. To our right rose Kunyang Chish, also unclimbed; and a little further back, Trivor, to be attempted by a British party later this year.

At first we stood and stared in silence. All around us lay a deep hush, broken from time to time by the thunder of avalanches. Gradually we began to study the climbing possibilities of our peak and very soon came to the conclusion that there was very little future in the East Ridge, which the Swiss had followed. Success on that route would depend on an impossibly long spell of unbroken fine weather. So we turned our eyes to the British route. True, the 10,000-ft. shattered face of ice was menaced by avalanches, but if we could succeed in establishing well-protected assault camps, it ought to be possible to cope with the most dangerous sectors.

The very next morning at six o'clock, Wolf, Diether and I started off on our first assault. Unfortunately, our start was too late, for the sun burned down on us pitilessly and breaking a trail in the loose snow, always knee-deep and sometimes up to our thighs, was sheer torture. On the avalanche-slopes it was easier, for they had been packed firm by the descending masses of snow. By 12.45 we came to a bergschrund. Our altimeter recorded 18,112 ft. We unropeed, took off our crampons and sat down to rest and eat a quiet meal washed down with juice prepared on the cooker. It was terribly hot and we all had headaches. Bemused, we looked up at the way ahead, which started with a thousand-foot couloir leading up from the bergschrund's upper lip. But we had had enough for the day, so we emptied our rucksacks and anchored every bit of equipment with ice-pitons under a bivouac-sack. Then we trudged wearily down again.

Götz and Herbert, whose turn it was the next day, set off at 2 a.m. in perfect weather. They took with them Hidayat Shah, nicknamed 'Sepperl', our best Hunza porter, who had already distinguished himself with Hias Rebitsch's party in 1954 (1955?).² We had a long lie-in and when we began to watch our companions through binoculars at 8 o'clock, they had made tremendous progress. We saw them working their way up the ice-couloir till they disappeared for a time from our view. An hour later, we saw them sit down to rest under an enormous sérac, just about where we thought Camp I ought to be sited. By 11.45 they got back to the bergschrund and collected Sepperl, who had remained there—we did not quite know why. We watched closely for a while, but presently we lost sight of them; just before 3 p.m., they rejoined

² 'The Batura Glacier', *H.J.*, Vol. XIX, p. 120, 1955-56.

us. Sepperl had suffered acutely from the early morning cold, so Herbert and Götz had wrapped him up in sleeping-bags and left him behind. They had succeeded in finding a safe and suitable place for Camp I at 18,840 ft.; there they had dumped their loads. Heavy cloud drawing down now, whilst we massaged the porter's toes and were relieved to see that there would be no after-effects. But we had decided after this experience not to use porters beyond Camp I, if we could possibly avoid it.

On the 26th Wolf, Diether and I trudged off again at 2.20 a.m., hoping doubtfully that it would stay fine. It was pitch-dark, a few isolated stars twinkled down on us and it was not until we were far up the glacier that a pale reddish dawn, shading into yellow and violet, suffused the mountains with a ghostly light. Our misgivings proved to be justified. An hour and a half later when we reached the bergschrund it was blowing pretty hard and the first avalanches rumbled down, counselling all possible speed. While Diether was carefully anchoring the equipment with pitons, Wolf and I climbed into the couloir to fix an additional 300 ft. of rope; Götz and Herbert had already safeguarded the upper part. Then we hurried down, retrieved our rucksacks and made all haste to get clear of the avalanche zone. We did not allow ourselves a proper rest till we were far down on the level glacier, clear of all danger.

The same evening I was given a special birthday treat, in the shape of a 'Himalaya Cake'. Götz, who always provided us with splendid meals, also managed to lay on strawberries and cream. The flickering candles illuminated our tent with a romantic light and, when we celebrated the occasion with a toast in wine, we realized that we had been forged into a solid and united team, ready to face anything.

We had to wait three days before the weather cleared and it was not until May 30 that the five of us with two porters, Sepp. and Chaban, pushed off again. Breaking the trail was hard work and we had to change the lead at regular intervals. At about 12.30 we collapsed in the snow at the spot selected for Camp I. Then we started to stamp a level site. After a short rest, the porters went back to Base, while we made another trip to the bergschrund and back, in order to bring up most of the material we had dumped there.

We took a well-earned rest next day. We had every reason to be satisfied with our progress, having established Camp I at roughly the height of the British party's second camp. Late in the afternoon Herbert and Diether went out on a reconnaissance. Not far above

camp, they had to climb a vertical 30-ft. ice-wall, cutting steps and fixing another hand-rail. Then they pushed ahead a fair distance. Meanwhile, Götz and I went down to the bergschrund to fetch the rest of the gear up, while Wolf was busy catering for the inner man.

On June 1 we all climbed the ice-wall early and stamped our way upwards over steep, dangerous avalanche-slopes. The long traverse which ensued called for everything we had. We were continually going in up to our thighs and the route was overhung by some perfectly frightening séracs. At 20,700 ft. we came upon a huge chasm, barring the way with an almost vertical, broken-off upper-lip about 30 ft. high. We were forced by thick mist and increasingly heavy snow-falls to dump our provisions and equipment and to climb down again. Diether and Herbert, fearing a longish period of bad weather, made haste down to Base Camp, while Götz, Wolf and I remained at Camp I. We were delighted to find that, during our absence, Amanullah and the porters had come up with fresh supplies for the higher camps.

On June 3, Wolf and I went up again in variable weather. At the start of the traverse we halted in amazement—the enormous séracs had disappeared and were lying across our route shattered into huge blocks. We had had a very lucky escape. When we reached the chasm we tried the ice-wall, but could not find a way up it anywhere. So we followed the huge crevasse up towards the west till we found it possible to climb a steep and dangerous couloir at its far end and so found the key to the upper lip. It was perfectly clear that this route was too difficult, time-wasting and precarious for normal use. Snow-flurries were blowing up and the increasing menace of avalanches drove us down to Camp I again. There we found Herbert and Diether, who had come up again from Base Camp, where they had prepared a rope-ladder and brought up some of the porters, each carrying a load of over 30 lb. We were able to snuggle into our tents in the knowledge that we had put the day to the best possible use.

On the following day, Herbert, Götz and Diether followed our route across the chasm and fixed the rope-ladder above it, thus providing the safest and quickest solution of this major obstacle. Not satisfied with this, they climbed on, reaching 21,325 ft. where they chose a site for Camp II in the shelter of a small sérac. Roughly at this point was situated the British Camp IV, the highest reached by that expedition.

On June 5, Wolf and I made good progress in their trail, which for once had not silted-up overnight, and by 9.30 we were able to

rope up the loads we had left below the chasm, and bring them above the rope-ladder. It was terribly hot by midday when we got up to the safe site of Camp II, where we decided to spend the night.

On the morning of the 6th, as we were bringing the rest of the equipment and supplies up from the ladder, we caught sight of the others at the start of the traverse. They had started late and arrived at about 3 p.m., having been exposed more than usual to the scorching heat of the sun. Now that we were all at Camp II, we decided to take a day off, which we all felt we deserved. Our thoughts ran something on these lines: 'We are about 1,600 ft. below the ridge, where we propose to site our last camp. If we don't run into any unforeseen obstacles, we ought to be on the summit within the next three days, with any luck.' This rest-day at Camp II was Wolf's 26th birthday, but, owing to our somewhat elevated position, we couldn't do much to provide suitable celebrations.

We moved off at 2.20 next morning by the light of an almost full moon, which soon disappeared behind the mountains. We suffered severely from the savage cold and after a few rope's lengths we had to admit ourselves beaten and seek shelter in our tents inside the comfortable warmth of our sleeping-bags. We did not prepare for a second start till the sun reached our camp and we did not get away till 9.20 a.m. We carried unusually heavy rucksacks, containing all the essential food and equipment needed for our third and last camp. With 45 lb. on our backs we made our way upwards leaving a deep trail behind. We began to feel the effects of altitude and had to stop with increasing frequency. At each halt we gazed around us and marvelled at what we saw. Our surroundings were indescribably impressive with high, shapely, grants of snow and ice, ranking among the world's great peaks. And, when our eyes followed the track downwards, Base Camp on the moraine, and the tongue of the Kunyang glacier flowing down the valley, seemed incredibly far below. However, there was little time for looking around. A long and difficult way lay ahead to the white line of the ridge, which was our day's objective, cutting into the sky high above. After a seemingly endless period of trail-breaking, during which we kept changing the lead, there remained only a steep ice-slope to be climbed. Götz and Herbert worked their way up it first and by 5.30 p.m. we were all on the ridge which sweeps up from the west col to the summit of Disteghil. The aneroid made the altitude *c.* 23,000 ft. It was with a great sense of relief that we flopped down in the snow and shed our crippling loads. We fought hard for breath and gazed out towards the north where, beyond

ranges of lower mountains, we caught a glimpse of the Tibetan plateau. Our bodies cried out for rest, but there was still plenty of work to be done. With our last remnants of strength we tottered around in an attempt to level the camp-site. A strong wind had got up, clouds were starting to gather, and it was dark by the time we were able to crawl into the tents. We could only hope the weather would not break.

The next day, June 9, was the decisive day. We stayed late in our sleeping-bags, unable to force ourselves to get going. We had all suffered severely from the almost superhuman exertions of the day before. It was 8.30 when I heard Diether's voice from the next tent, asking loudly: 'What are we going to do?' I waited a while for someone else to answer, before my brain at last started functioning somewhat on these lines: 'We have got up to this considerable height in a surprisingly short time. The summit up there looks close enough to touch, and the weather looks like going bad on us pretty soon. There's a full moon too—so, we'll just have to have a go at it.' In the end, hardly able to credit it myself—for we were all badly exhausted—I said aloud: 'We'll have a go.' Very slowly, I peeled out of my sleeping-bag and tried to get up. It was not until then that I realized how tired and worn out I was. Götz and Herbert both had a temperature, and I looked around busily among our medical supplies trying to find the right pills. Then I asked Wolf if he agreed to our making the attempt. 'Of course', he agreed. 'Take the pen-nants with you.' It took me more than 20 minutes to get one boot on and, with all the necessary preparations, it was 10.30 before Diether and I were ready to start. Wolf called after us: 'Good luck, and don't get frost-bitten', as we started laboriously step by step up the ridge. Very soon one of my crampons came loose and I was quite unable to fasten the straps myself, because my fingers were too stiff. My circulation has never properly recovered since I got frost-bitten on a winter-climb in 1959. I kept on for a while, trailing the crampon, but in the end I had to ask Diether to fasten it for me. I was furious at having to make such a demand on him, but he only grinned. Unfortunately the performance repeated itself several times and I was on the point of giving up all hope of reaching the summit. The wind had formed steps in the slope, first of hard-pressed snow, then of soft, loose stuff, which lost us much time and made progress painfully hard work. We changed the lead from time to time and it was a tremendous relief for the second man to get a brief rest while the rope ran out. It was with the greatest difficulty that we got moving again each time. We were staggering at every step and over and over again we felt we simply couldn't go

on. The beauty of the surrounding peaks was quite forgotten as we stared almost indifferently at the snow in front of us. We didn't know any more what force was driving us onwards—it certainly wasn't any effort of our conscious will-power. We just toiled on upwards mechanically, obeying some subconscious instinct, but the last slope to the summit never seemed to draw any nearer. An icy wind, coming in fierce gusts across the ridge, drove sharp particles of snow painfully into our faces. Meanwhile dark ragged clouds swept across our peak. At about 2.45 we had at last laid behind us the steadily rising 'plateau' slope and had to start on a long traverse. Looking back we could see the two lonely tents of our camp lying like an eagle's eyrie, fearfully exposed, far below us. At this point we were almost engulfed by the loose, slushy snow, which provided no support whatever. Then we came to a solitary rock, the first since leaving Base Camp; and after a long time a couloir, apparently leading up towards the summit, opened in front of us. I had to remind Diether that it was long after 3 p.m., the hour at which we had decided to turn back. His reply, 'we'll be on top by 6 o'clock', was so confident that I accepted it cheerfully and trudged on. Up there was the summit and it had definitely come a good deal nearer.

In a steep ice-couloir I lost hold of one of my ski-sticks. We did not stop, for I hoped to retrieve it on the way down. We could not be far from the top now. Indeed next time I moved up towards Diether, I could see to my delight that he had actually reached the ridge. I looked at him as I panted for breath. 'Was it the top?' He didn't answer, but simply pointed along the broad crest to a slender pyramid of ice rising, some distance away, from its further end. It was terribly disappointing, and it was only now that we realized what a long detour we had made in trying to reach what we thought was the summit. We turned off to the right and followed the crest until there was only a sharp icy blade leading sheer to the top of the needle of ice, which was the highest point of Disteg Sar. Diether climbed slowly up it—it was so narrow that he had to plant his feet on the steep slopes on either side. I followed him, and at 6 o'clock we were both standing at 25,868 ft. on the summit of our mountain. It was so sharp that we had to take turns in occupying its extreme tip. Our expedition had achieved its objective.

We shook hands joyfully. By sheer chance, I had had the luck to climb this great peak with the very companion who had shared my most difficult Alpine climbs with me. Suddenly we were conscious of the cutting cold, and I looked in dismay at my hands, which were yellow and frozen stiff. Diether tried to massage my fingers.

while I puffed at a cigarette specially reserved for a 'summit' smoke. Then he fussed around getting his camera out, to take a picture of me with the pennants. It was only likely to have a symbolic interest, for he couldn't find a reasonable place to take it from and dark clouds had in the meantime come up all round us.

After half an hour we had to think urgently about getting down. While Diether used his ice-axe for belaying, I went down supported on his ski-sticks. We went as quickly as possible straight down the couloir, to avoid our detour of the ascent. The all-important thing seemed to us to be the negotiation of the traverse before darkness fell; after that we wouldn't have anything to worry about. We managed it safely and went stumbling on down across the high plateau. At one spot Diether suddenly pointed down to the moraine, near Base Camp, where he thought he had seen a light. I couldn't see it and, in any case, whatever he had seen didn't appear important enough for me to have to concentrate on it. We lost our crampons and finally decided to let them go, though Diether fortunately managed to keep one of his on. In the existing conditions it was an extremely laborious and dangerous descent. On the hard, wind-swept hummocks of ice we kept slipping and falling down, frequently hitting our backs, or the backs of our heads, hard enough to make us wonder each time how on earth to stagger to our feet again. On one of these falls, I found it impossible to check my descent and was sliding at increasing speed towards the southern precipice till a force tug brought me to a standing position once more. Diether, very much awake, had managed to dig his axe into the hard snow in time and so held me and saved us both from falling off the mountain.

In the end, even that endless descent was over and a few minutes after 9 p.m. we drew near to the tents. We were on the verge of total collapse. By the gentle light of the moon we wrestled with the knots in the rope. 'Good show', said Wolf, when we reported briefly that we had got to the top. Then we crawled into our flimsy shelter which, at the moment, appeared to us the essence of comfort and, as soon as the tent was closed, we experienced the utter bliss of lying down in a warm sleeping-bag. It was not till then that a feeling of peace and comfort and complete joy came over me. 'We've done it!' I kept on thinking, 'we got to the top', before falling into a restless sleep, with the hardest day I have ever lived through behind me.

On June 10, we woke to find the mist swirling round the isolated little camp at 23,000 ft. which, like some small island, gave shelter

to five human beings. Soon it was blowing a blizzard; a clear warning for us to leave with the least possible delay. Preparations for the descent took a long time, especially as Diether and I, whose hands and feet were severely frost-bitten, could take no effective part in the work. And so it was midday before we could evacuate our camp, leaving one tent behind. The descent of the steep face called for extreme caution. Diether and I had to be safeguarded as we had no sensation in our feet and found great difficulty in putting them down with any assurance. Our rate of progress was therefore terribly slow and the descent seemed endless before we arrived safely at Camp II about 5 p.m. It had been Wolf's intention to go on down, but we were afraid of being benighted and therefore decided to stay.

The weather continued to be bad all the next day; the gale and the snow never let up for a moment and the thunder of descending avalanches boded no good. We lay dozing in our tents and hoped for a temporary improvement, for a dangerous part of the descent lay before us. To add to our troubles, our fuel ran out and this caused us great concern.

On the 12th we held serious consultations to decide the best thing to do. The freshly-fallen snow was over two feet deep, greatly increasing the danger from avalanches, and the very idea of going on down seemed utter folly. On the other hand, the snow was getting deeper, and we had no means of cooking meals, which meant that our strength would be increasingly sapped by hunger and thirst. We felt we had no alternative but to continue the descent.

We went outside wrapped up to the eyes and Herbert began to work his way down in the deep snow. Visibility was practically nil. At the very first slopes he started to slide with the loose, chest-deep masses of snow, but Götz managed to hold him and restore the situation. Just before the big crevasse it mercifully cleared up a bit. This enabled us to check our direction and find the rope-ladder, the passage of which demanded long and exhausting struggles. We trudged on downwards, falling in the snow one after another as if we were drunk, and somehow managing to stagger to our feet again. Steadily, desperately, Herbert and Götz ploughed a deep furrow across the long traverse, and we followed. Our nerves were stretched to breaking point for fear that the snow on the long, unconsolidated slope would refuse to hold. It seemed almost impossible but it did. After hours of exhausting work, we came to the cliffs above Camp I, and managed to find the best route down. Soon we found the fixed rope down the ice-wall, though Herbert had to dig it out of the snow. The short descent of the almost

vertical ice-cliff was terribly difficult for Diether and me, but Wolf belayed us down it with great care. By the time we reached Camp I, Götz was busily engaged in preparing a hot drink, a luxury we had been denied for days. We fell on food like a pack of ravenous wolves and washed it down greedily with drink upon drink. Gradually our spirits rose and we began to feel increasingly confident that we would get through safely.

Now that we had enough fuel and food, we could afford to rest for a day at Camp I, but the fury of the weather had by no means abated. The blizzard continued to rage incessantly and on the 14th we were forced to complete the descent in very unfavourable conditions. The steep couloir once again demanded all our reserves. Finally we crossed the bergschrund and reached the more level surface of the glacier where, certain at last that we were clear of all danger, we sat down for a rest, with a blessed feeling of peace in our minds at last.

On the glacier, we had to make wide detours to avoid newly-opened crevasses. At last we reached the moraine and stared at each other in silence, all thinking the same thing. Team-spirit forged like steel, incredible luck and, by no means least, the kindness of the Almighty had helped us to escape from the inhospitable desert of snow, with its roaring avalanches, and find our way back to life itself.

We dispensed with the rope, our companions took our crampons off for us and, while Wolf was gathering up the rope, Diether and I went stumbling on down the moraine towards Base Camp with clumsy, uncertain steps. An indescribable joy came over me as I tottered the last few paces of the long descent, leaning on Herbert's shoulder.

All the porters came rushing wildly to meet us, shouting: 'Dastoghil finished, Sahib: Dastoghil finished!' Crying with joy, they kept hugging us, kissing our hands and staring at us incredulously, as if we were ghosts returning from another world. Aman, our liaison officer, who had become our firm friend, shook hands with us with deep emotion. 'I knew you would do it', he said simply. 'I prayed for you day and night, and so did my people at home.' And yet they had all doubted whether they would ever see us again. For five days, while they knew we were climbing down the immense mountain through that raging tempest, they had been unable to see a single sign of life. On the ascent, they had been able to follow us through the glasses and, at the very moment when we were perched on the ice pinnacle which is the summit of Disteghil

Sar, they had lit a big bonfire on the moraine. So Diether had been right about what he saw.

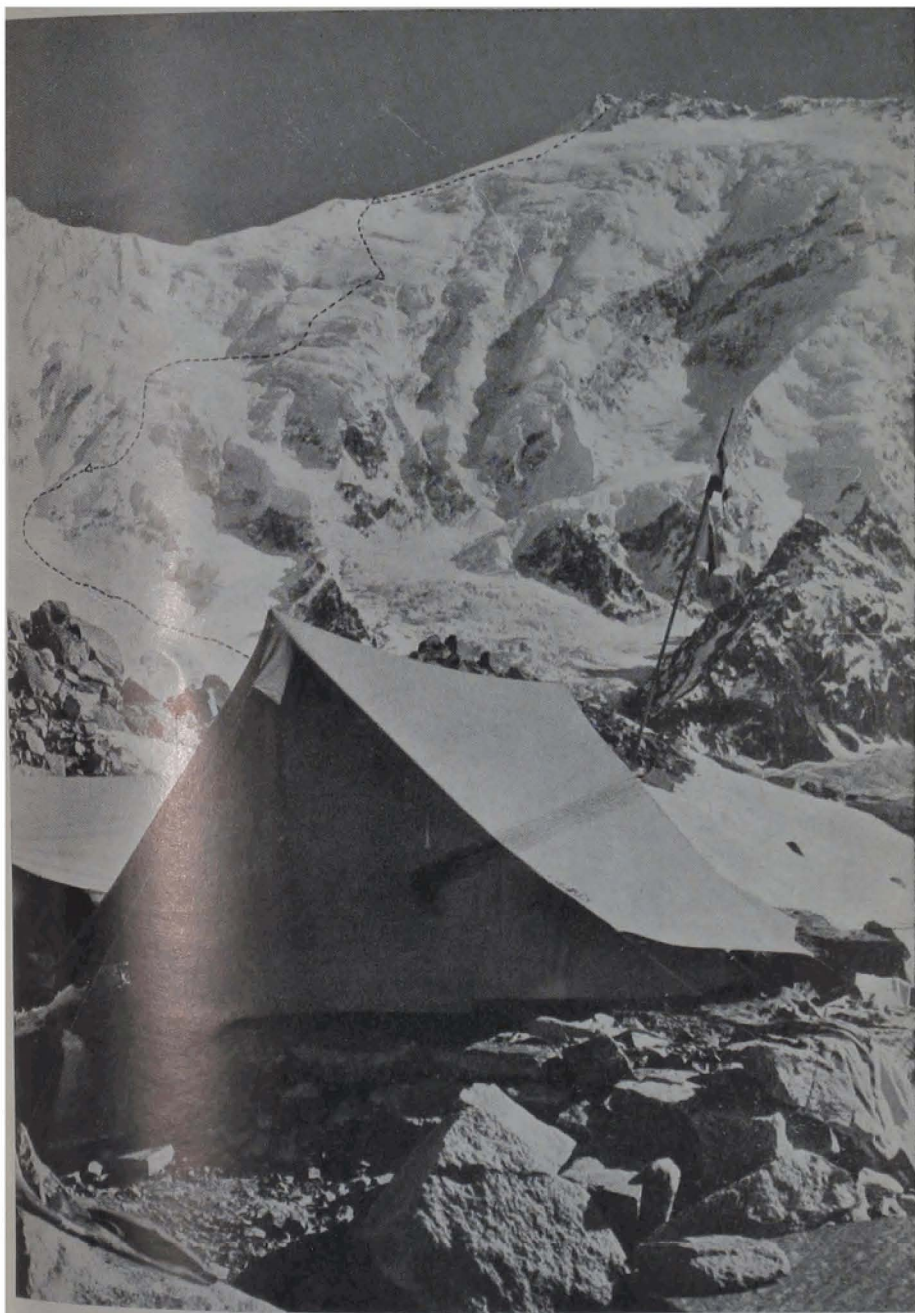
Gently and solicitously those splendid lads carried us into the tents, made us comfortable in bed, took off our boots and stockings and started to massage our feet. We laughed and were happy, ate and drank till the evening. And we steeped ourselves in the mail from our friends and families at home, which had been brought up by runner while we were away.

Unfortunately, it soon became clear that the frost-bite Diether and I had incurred was more serious than we had realized. Accordingly, our companions urged us to go down at once, so as to get medical attention at Gilgit or, better still, in Rawalpindi. Although we were at first very much against such an idea, we had to admit in the end that it was essential for us to follow their advice. It was, however, a sad decision to leave our friends, knowing that they intended to climb Disteghil's menacing face again, in order to evacuate the camps and, if at all possible, to have a second go at the summit.

At noon on June 16, we said good-bye to them and to the mountain. We were almost in tears as we shook hands, for our common ordeal had brought us close together.

Accompanied by Aman and two porters, Shaban and Safer Ali, we turned our backs on Base Camp which had almost become a home. It was the start of a hard and painful journey. Slowly we dragged our way down on numb feet, our hands encased in linen mittens and hanging limp in the slings of our ski-sticks. It was not till late in the evening that we got off the torturing moraine of the Kunyang glacier. Next morning, in glorious sunshine, we had a last glimpse of Disteghil Sar in all its magnificence.

The swollen glacier torrent had obliterated the track to Hispar, so we had to cross the Hispar glacier above its snow, involving a detour of several hours. We arrived at Hispar at 9.30 p.m. After a comfortable night we limped across the suspension bridge to the other bank and on down the valley, over fans of debris and rubble. We used up our final reserves of strength over the last trackless stage. Throughout the exhausting march, Diether, characteristically, remained quiet and introspective, while I expressed my anguish by swearing aloud incessantly. In the end of the evening again, the porters set up the tent for the last time and prepared a hefty meal out of our remaining tins. The fourth and last day saw us creeping towards Nagar in the last stages of exhaustion under the full glare of a pitiless sun. Fierce gusts kept on whirling the loose sand up so that, for long minutes on end, we moved on in a



DISTEGHIL SAR, 25,868 FT., SEEN FROM BASE CAMP, SHOWING ROUTE AND CAMPS



MAKRONG CHISH (6,608 M.), ABOVE THE
KHIANG GLACIER



KUNYANG CHISH (7,850 M.), TELEPHOTO FROM
CAMP I ON DISTEGHIL SAR

thick cloud of dust. Our gloomy feelings matched the bleak surroundings of sand, debris and water. When Nagar, with its lush green meadows, suddenly came into view, it was like a glimpse of another world. Aman had hurried on ahead and sent horses back to us, so we were able to ride the last stage. Weary, but in some strange way utterly detached, we lay down to sleep at the Nagar 'Rest-House'.

On the 21st a jeep came to fetch us and a $7\frac{1}{2}$ -hour journey along the hazardous road brought us to Gilgit, where the peach and apricot trees were rich with fruit, and the Political Agent and the Mir of Nagar received us most cordially. We had to spend a day in hospital before we could embark on the flight past Nanga Parbat to Rawalpindi. There the pessimistic utterances of the doctors convinced us that it would be best for us to get to Vienna as soon as possible, since our fingers and toes needed prompt and careful treatment. Thanks to the active and very friendly assistance of Aman, Colonel Goodwin at Rawalpindi and the Austrian Ambassador and his Attaché in Karachi, Dr. Hartlmayr and Dr. Maschke, we touched down at Vienna on June 28, exactly three months after our departure.

We shall never forget the warm reception our friends and relatives had prepared for us at the airport. It brought home to us the extent of their participation in our venture. And while we entered our long period of treatment under the care of Professor Tappeiner at the Skin-Clinic of the University, our friends in Asia were climbing again with the remaining porters as far as Camp II. Once again a break in the weather called for a rapid retreat and, after evacuating both camps, they had to fight their way down to Base with their heavy loads.

Later, our friends came home safely. The injuries inflicted by the mountain are rapidly healing; the permanent damage suffered by Diether and myself will be confined within bearable limits.

Our grim descent from the summit is losing its terrors with the passage of time; and the unforgettable experience of our climb up Disteghil's enormous face to the tip of the slender pinnacle of ice, which is its summit, crowd in to remain the real and shining memory of our adventure.

THE ASCENT OF TRIVOR

By WILFRID NOYCE

TIMES change. A generation or two ago it would have seemed incredible that by 1960 it would be positively difficult to pick an unclimbed twenty-five or twenty-six thousander off the map. Yet such, only seven years after the first ascent of Everest, is the predicament of those anxiously seeking their share in the Golden Age of Himalayan Mountaineering.

I have always had a preference for a peak like Machapuchare, which has not even been trodden before. When the party with the sounding title of Anglo-American Karakoram Expedition, 1960 (on the strength of Jack Sadler from the States), began to form itself, we ruled out Masherbrum, our first thought, on the ground that the route had been too thoroughly trodden already. It was thanks to Eric Shipton and the map of his 1939 party that we lit upon a mysterious summit some eight miles west of Disteghil Sar (25,868 ft.), a mountain we had already ruled out because it had been attempted twice, and both parties reported bad avalanche danger. This new summit was marked: 'Trivor, 25,330 ft.' So little known was it that when, delighted at my find, I applied for permission, I received a courteous letter from the Surveyor-General of Pakistan, informing me that no mountain of that name or height could be discovered on any map in his possession. The name is probably a corruption of Thale Var. The height our survey officer, Sahib Shah, fixed, finally I hope, at 25,370 ft.

For an unexplored mountain, approached by an equally unexplored glacier, the Gharesa, a reconnaissance party seemed called for. Don Whillans, plumbing being an indulgent profession, sailed from Liverpool with the kit on May 16. Colin Mortlock joined him by air at Karachi, and the two of them, with Capt. M. Yusuf, our liaison officer, made the air journey with the baggage, from Rawalpindi to Gilgit on June 17. The last letter I received, written on June 23, reported them at a Temporary Base Camp three days up from Nagar, the last village, and overlooking our glacier. There were difficulties of food and fuel that must be flown in, difficulties of jeeps for the first stage, difficulties above all of porters on the mud steps, headaches of all sorts ahead for us . . .

The main party, Sandy Cavenagh (doctor), Jack Sadler, Geoff Smith and myself, with our botanist Oleg Polunin, flew out at the very beginning of July. I pass over in solemn silence the hurdles of

plane, jeep and footmarch that had to be taken before July 18. when we, our mountain of food (to feed 150 porters, on the *Rum Doodle* principle) and our equipment, were greeted at Nagar by Whillans, bearded and looking very fit, with Yusuf. They had good news. Base Camp was a beautiful spot, four days from here, grass and flowers, and a little stream. The obvious route on the map was out of the question ; but by pressing on up the glacier to its very head they had found themselves under the most accessible col on the long ridge between Trivor and Momhil Sar to the north-west. Two camps would be needed here. Camp III would be on the col, at 22,000 ft., which Whillans had just managed to reach.

Our problem was to reach Base Camp. Soon after the route left the main Hispar path, Whillans said, it petered out in the dust and mud of a terribly steep valley wall. They had had difficulty here with the Nagar porters, and on one occasion Don had kicked one of them—prelude to many a row. On the first day, however, the worst did not happen. This was partly due to the Mir's authority, largely to the ropes fixed skilfully by Whillans at crucial points. The steepness of the dust-and-rock bank frightened them, the views down into the Hunza River almost unnerved them ; but they came across. The second day, too, to the glacier snout, they were quite happy. On the third day, on the rough boulder-strewn glacier, discontent began to rear, ugly and disquieting. They were tired and quarrelsome when they drew out at Temporary Base, on a shelf above the glacier. A fight started that evening between Hunzas and Nagars, neither side, fortunately, being very competent with its weapons. The Nagars complained of everything they could think of.

Base Camp had not been overpraised ; grass and primulas by a gentle stream. Unfortunately, a host of worries obscured the view. Food, and specially sugar, had disappeared alarmingly : Geoff Smith sat brooding over desperate calculations on bits of cardboard. We had to send an S.O.S. for 50 lb. of sugar to the P.A. Otherwise, Geoff's skill brought us through, with a little to spare.

Apart from food, our major preoccupation was the stocking of Camps I and II. I admire leaders who can work out an exact day-to-day schedule months beforehand. In our case, both the labour force and the amount it could carry varied considerably. The general plan was to stock Camp I, and then Camp II, which lay right under the North-West Col slopes. This, thanks to our six Hunzas and the dryness of the glacier, went fairly smoothly despite indifferent weather. By July 29 Camp II was Advance Base, only Cavenagh remaining sick below.

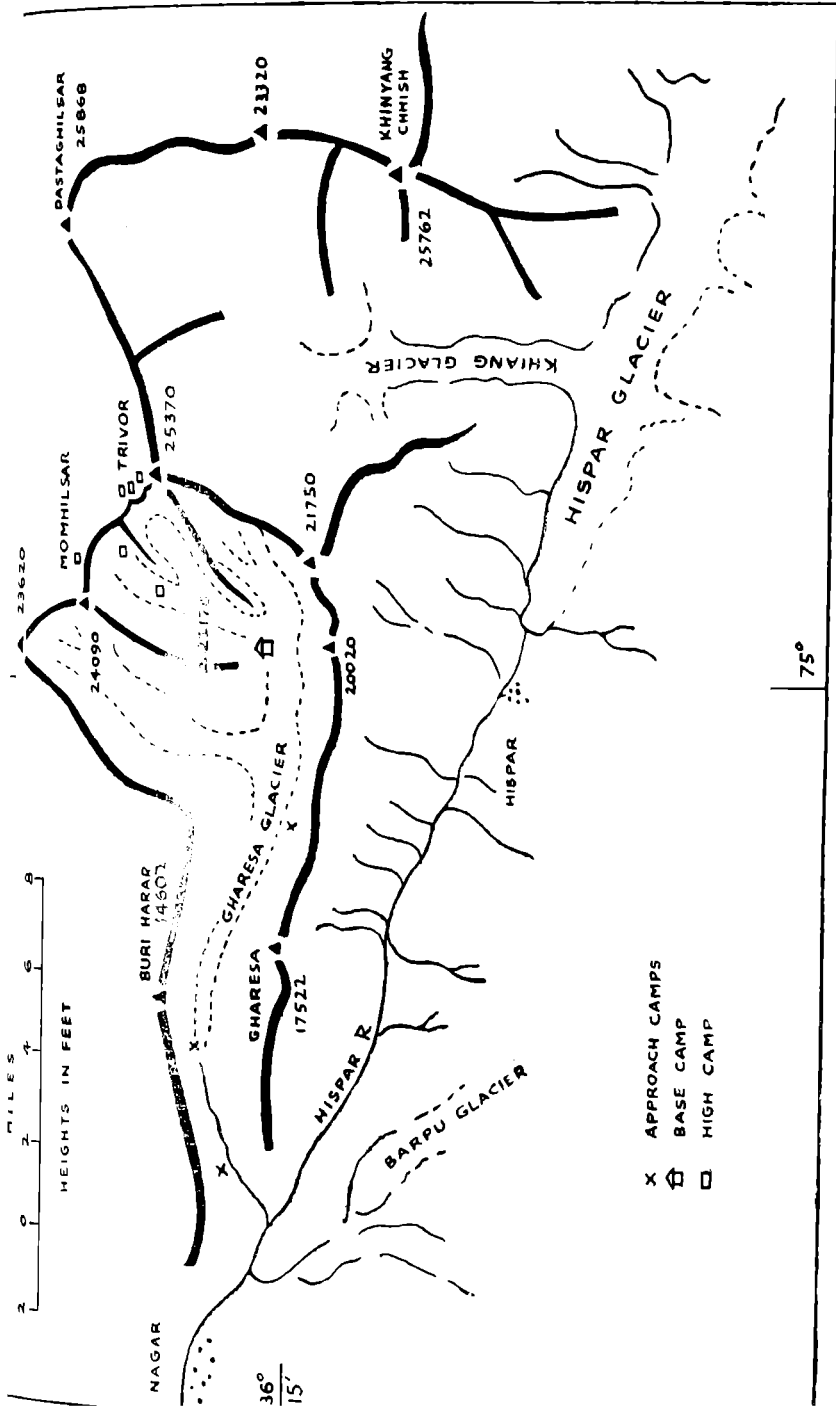
Don Whillans and the Hunza Ali Gohar had already started work above, on a great white slope reminiscent of Everest's North Col. Our chief enemy at this stage was heat, since after midday movement became intolerable. Early starts were *de rigueur*. On August 3 the weather became less good, and Whillans and I, reaching the col with loads for the establishment of Camp III that day, found ourselves alone in our enthusiasm. The others had prudently sheltered in the enormous crevasse that split the slope at two-thirds height. We descended, to be confined for two more days below. It was the 6th before Whillans and Mortlock, the spearhead, could be established at Camp III for the critical reconnaissance along the ridge.

The trouble with our col was that it sited itself as far as possible along the ridge from Trivor, two miles from the summit, in fact, and right under Momhil Sar. Moreover, this ridge obviously had its ups and downs, and in places looked very sharp. It was a relief when Sadler, Smith and I moved up on the 8th, to receive the others back from a successful second day of reconnaissance and rope-fixing. I now had to make yet another plan, and it was circumstance rather than direct choice which set me packing my bags to join Whillans in establishing Camp IV.

The route to Camp IV was awkward—a horizontal, corniced ice-ridge in its latter part, and perhaps we underestimated it. Sadler, without crampons that day, had to retire despite the fixed ropes. Smith and Mortlock dumped their loads at the ridge-end overlooking our Camp IV site, and set off on the long grind back. Whillans and I, having negotiated a tricky snow-ice slope down to more level-looking ground, then spent 2½ hours digging out a platform in ice that turned out to be steeper than it looked. It was nearly dusk before blessed tea came to control our thirst.

Camp IV (21,500 ft., 500 ft. lower than Camp III) was dramatically sited. Two bumps, well over half a mile of ridge, had been traversed, but there remained a lot more. From one position very near the corniced crest we looked down some 400 ft. to the next col. Thence a sharp crest, rock on the right, snow bending left over the cornice, led up to a great two-headed tower, beyond which there must be another drop. The last 2,000 ft. of the mountain looked more open.

To climb the tower with Don Whillans was instructive. He went straight for the rocks, steep but not too difficult. When my turn came I veered to the snow, and at the top of the first crest found myself *à cheval*, looking down my right boot into one valley, down my left into another. Before, however, my seat got too wet. Don



SKETCH MAP SHOWING THE POSITION OF THE PEAKS AND CAMPS

had spied that a short abseil would keep us on the right-hand rocks, the top, really, of the great precipice overlooking Gharesa Glacier on the right.

We ended the reconnaissance at the tower and descended in a mist, to be confined for another day in camp. The support party had not managed to get along, illness and weather preventing, but on the 12th—a splendid day—we confidently expected them. Whillans enlarged the platform to take another tent, I went back along the ridge until I could see them in the distance. But they never arrived. A minor accident, as it turned out, had deflated the sails of advance, and going back at 4 p.m. we found the loads sitting forlorn on the lowest col, about half-way along. We took enough for a first carry to the site of Camp V.

It was next morning that Whillans complained of 'growing pains in the legs' and a bad night. However, we reached the site of Camp V (22,200 ft.) in a dell under a little rocky castle on the next rise beyond the two-headed tower, despite waist-deep snow which drove us to a tricky little rock movement on the right. Whillans was going strong, very strong, till the last few yards. Then his legs seemed to give out under him. The return journey must have been a nightmare particularly the 400-ft. plod up from the col. But Sadler and Mortlock had managed to come along, and we continued therefore with our plans for an advance. They would return to Camp III, and come very early with the final loads for V and VI. When they had gone I took Don's temperature. It was 101°.

When the faithful two had appeared shortly after 7 next morning, having made an Alpine start, the decision was tricky. The temperature had descended to 100°, but the patient must clearly stay put. In our hearts we both feared polio, though we had all been inoculated. On the other hand, Cavenagh, the doctor, would be along today with Geoff Smith, and the weather remained perfect. At 9-30, after a rapid change of role and some vigorous repacking, Jack Sadler found himself tramping with me down towards the col. Before 2 p.m., sweating from heavy loads, we were pitching Camp V. What happened below we only learned on the 18th, since nobody was in a position to come up in support, and an elaborate system of torch signals failed completely to work. The doctor, too, had diagnosed polio and made Don lie on his back for 48 hours. At the end of this time he felt all right; the disease had brushed him only with its wing. He was able to return to base, and, at the end of the expedition, to return solo by motor bicycle to the U.K. Don Whillans had done more than anybody to pioneer the route up Trivor. It was bitter luck that the summit should be denied him.

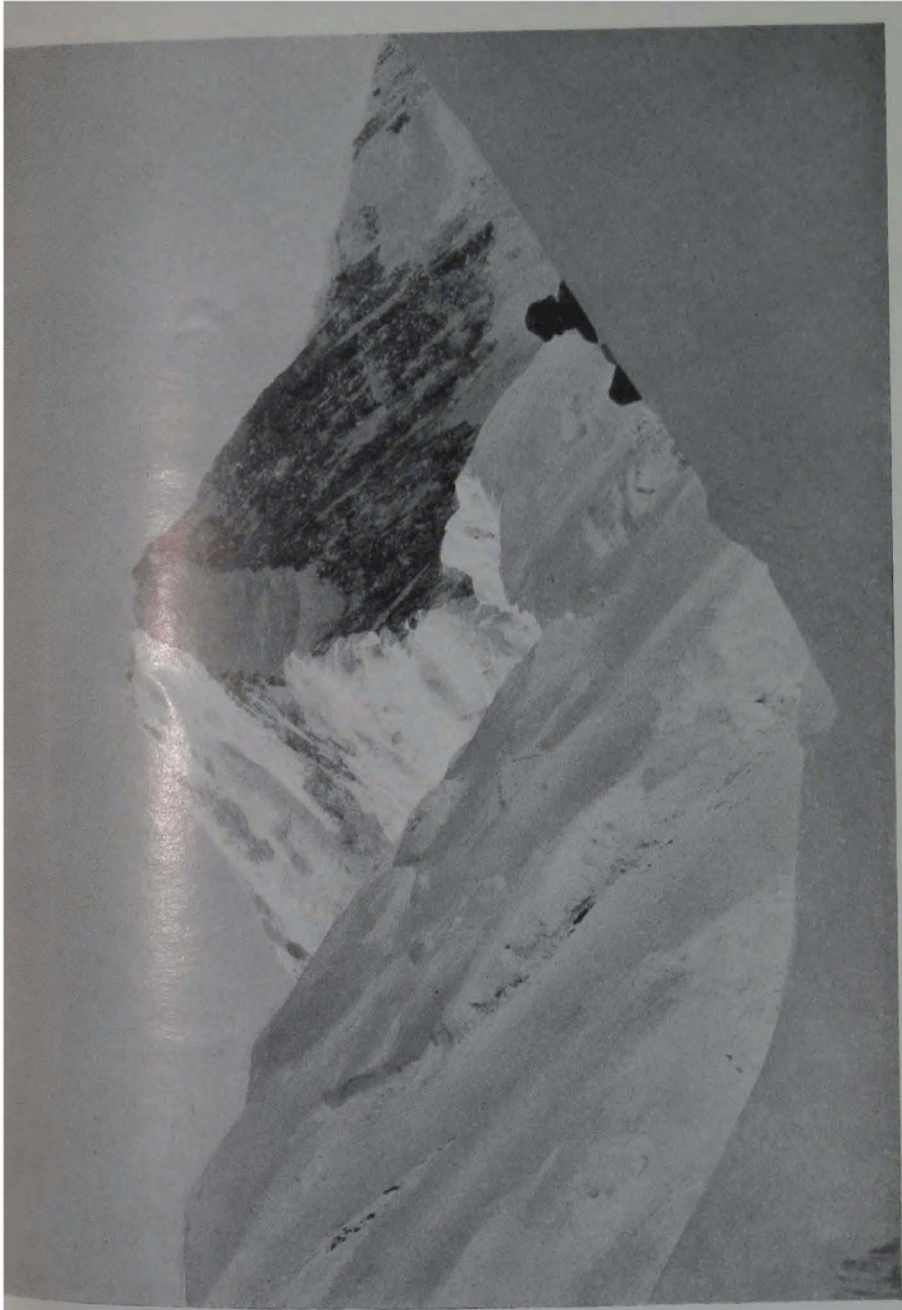


Photo: W. Noyce

THE TWO-MILE RIDGE OF TRIVOR SEEN FROM THE GREAT CREVASSE



Photo: W. Noyce

DETACHEE SAB FROM THE NORTHWEST COL OF TRIVOR, TAKEN AT A

Meanwhile, at Camp V, a reddish-brown sunset gave promise of a perfect morrow. This promise was outrageously broken. The 15th dawned dull, with snow in the air, and black cloud battalions down the valley. Sadler, suffering from an ulcered throat, vomited his breakfast. We set out doubtfully, in a phoney clearing, and soon found ourselves at yet another col, the very last. Then the clouds gathered again, and on the broader ridge above, snow started to fall. We went on. As the wind livened we found ourselves drifting left, on to the lee side, and shortly before 2 p.m., there we were, at a handsome little crevasse with an embryo platform some way down which would just take a tent. Camp VI, 23,200 ft.

So sheltered was this crevasse that I thought, looking out on the 16th, that we might be able to start, and only on emerging found myself in a young blizzard. We spent all that day in confinement, digging out the tent occasionally from wind-drift. At about 5 p.m. a miracle of clearance took place. The peaks all glowed golden in their new mantles above black valleys, the stars shone. Hope sprang again.

We slept uneasily, waking at 4 a.m. on the 17th. But it was 5-45 before we stepped out, into a great cold, to clamber over the awkward lip of our crevasse and through the deep powder snow beyond. The upper part of the face into which our ridge had broadened was simple in structure. Two rock ribs vertically one above the other split it, and we ploughed knee-deep towards the lower of these. Fortunately, it was steep enough for the snow at its side to be hard. We rested at 9 a.m. on its top, and rubbed Jack's toes. Three of these, and some fingers, proved later to be very mildly frost-bitten. What with this, and his throat, I do not know how he hung on that day. It was a heroic effort.

After a failure to get easily up the snow-ice, we took to the rock of the second rib itself; surprisingly useful rock, distinctly difficult for the first 150 ft., broadening above into a great shattered crest. But the weather, again! From nowhere in particular light clouds started to drift over the summit ridge, a light snow to fall upon our bent and despondent heads. This summit ridge, which had seemed so near, looked just as far away when we halted for sardines at 1 p.m. At 1-30 p.m., when suddenly, unexpectedly, we were on it, the second miracle started to happen. The clouds rolled back, the summit itself, a great cone still over an hour away, seemed airily to invite us. At 2-40 p.m., after nine hours out with very little halt, we had arrived.

The prospect was noble. Before us stood Disteghil, backed by the brown of what must be China. Then Pumarikish, Kanjut Sar

and the great fang of Kinyang Chhish (25,762 ft.), with the mighty Hispar vignettted at their feet. The southern skyline was still dominated by Rakaposhi—a superb triangular shape lolling on cloud. Then round to the ferocious Batura and beyond these, on the horizon, the Pamirs in Russia, standing clear and delicate like fairy castles. But we could not stay long. We had noted that our ridge caught the sun at evening, and we needed all of it. As we chipped and crawled cautiously down those slopes, the clouds rolled still further back, revealing new valleys and glaciers tipped with that last, unearthly light. But by this time we were too dehydrated to do much more than watch our step. At 7-15 p.m., after 13½ hours out, we scrambled over the crevasse lip into the frozen twilight of Camp VI.

Next morning the primus ran out at breakfast, and we had to descend to Camp V for the tea stage. Still nobody—indeed nobody until, late that afternoon, we plodded up to Camp IV to be greeted by Colin Mortlock. He, after nursing Don, had gallantly stayed on alone at Camp IV to receive us. By August 22 the whole party was back at base.

There this episode, perhaps, should end, but for me it ended some time later. It took a week to get everything down from Camp III and below. During that time a little exploration of the side glaciers was done, in the vain hope of finding a different exit. When we finally went down, I broke out, alone, to follow the route taken by Polunin and Sahib Shah across the Gharesa ridge and down to the Hispar, before we all joined up at Nagar for a few days' visit to the State of Hunza, across the valley. Lying in my sleeping bag beside the muddy Hispar I could not help being nagged by the eternal why? Why spend months, and years, and thousands of pounds, in order that two men may stand on a patch of snow for twenty minutes? And do not we, who build our gear to the Unknown Mountain and then harness ourselves so heavily that we cannot step out of the traces into the country around, deny ourselves pleasures of sight and sound, bird and flower, which we could have for comparatively little in cash and effort?

Achievement. It seemed a strangely nebulous word, just then. And yet, when I thought of the fun and good companionship, of the sheer beauty of those cloud visions, I knew that I had had the best of at least one world. I remember shrugging my shoulders in my sleeping bag and laughing, foolishly, aloud.

HIMALAYAN SCIENTIFIC AND MOUNTAINEER- ING EXPEDITION, 1960-61

PART I

By NORMAN HARDIE

THE above heading is the correct title for the venture more commonly known as 'Sir Edmund Hillary's Himalayan Expedition' or just 'The Hillary Expedition'.

In spite of an immense amount of publicity which may have suggested it was a 'Yeti Expedition', the main objective of this party was physiological research. Its basis was a nine months' study of the human body at altitude, involving a team of doctors with vast amounts of physiological equipment, keeping to a programme of tests designed to answer many long-standing questions on human reactions. Related to these tests was a meteorological study. The quest for the elusive yeti was introduced partly by the request of the sponsors, 'World Book Encyclopaedia', and partly to provide a programme for the non-building group while they were acclimatizing, waiting for the construction of the huts, which are the bases for the experimental work. To give the mountaineers a suitable incentive for their labour as guinea-pigs a mountaineering programme was introduced, culminating in an attempt on Makalu. Such a climb would give further material to the physiologists, in the form of comparisons between those climbers with two and those with eight months of acclimatization.

This paper includes the construction of the huts and a brief account of the yeti search, leaving the medical and climbing to a later contribution.

The first party to leave Kathmandu headed for the Rolwaling on September 13, 1960, under the leadership of Hillary. The others in this party were: Marlin Perkins, zoologist; Larry Swan, biologist; John Deinhart, sponsor's representative; George Lowe, photographer; Tom Nevison, physiologist; Mike Gill, physiologist; Peter Mulgrew, wireless operator; Pat Barcham, mountaineer; Desmond Doig, reporter; and Doig's assistant, Bhanu Bannerjee.

In normal monsoon weather they followed the Charikot route and set up a preliminary base at Beding. There a severe storm was weathered and a series of excursions began in the adjacent

high country, examining all types of animal life, from the biologist's frogs and butterflies to wolves and bears, and, of course, the yeti.

Meanwhile, the second party, under my leadership, left Kathmandu one day behind the yeti searchers. The others with me, apart from four Sherpas and three hundred coolies, were: Jim Milledge, English doctor; Wally Romanes, New Zealand builder; and Barry Bishop, American cameraman. Each of these had additional accomplishments besides those listed, and each was a capable mountaineer.

The previously mentioned storm caught my party on the worst possible day. As is quite normal in the monsoon, the Jubing bridge had been washed away and the alternative high route above Ringmo had to be followed, over passes approaching 15,000 ft. When this bulky caravan was at the treeline before the first pass the weather broke. Cold rain blew in from the south-west and on the pass snow fell. The ill-clad coolies were well aware of the fatalities on the same pass with the Swiss Everest porters in 1952.

With a minimum of shelter we had to wait two days amid wet loads and constant complaints from the Kathmandu men, all of whom wanted to be paid off. We had no tents for so large a party and this camp was a long way from local food supplies. We searched the neighbourhood for willing replacements and received promises from 180 Bhotias, allowing us to pay off that number of Kathmandu men. The weather looked better on the third day. Our camp soon emptied of men as the push over the snow-covered pass began. However, the camp was not empty of loads. The 180 local replacements arrived in twos and threes and it was not until 2 p.m. that we were all finally moving.

We had a very slow and dragging tail. Forty people did not cross the pass that night, and forty more failed to reach the camp on the other side. Every overhanging rock for miles was occupied. Fortunately the 'all-nighters' were well-clad Bhotias.

In the next lap we wanted to cross the gorge of the Lumding Khola and reach Ghat. The caravan was pushed forwards early in the morning before the stragglers arrived. On the following day we were still spread out, camping miles apart, and without any check on the loads. Dawa Tensing and I spent two hours which were stimulating to the coolies. At the first village where new labour was available we replaced the last eight of our stragglers and promised the same measures would be taken at the next village.

Soon we were in Namche Bazaar, then through it to the more

friendly atmosphere of Khumjung. From now on we were in radio contact with our leader, operating in the Rolwaling.

In the final torrent of the monsoon we had an ear-splitting pay-off in the Thyangboche gumpa courtyard. With a sigh of relief the more controlled remainder settled down to the jobs of recruiting Sherpas, finding a house to rent, buying stocks of food, and preparing timber for hut construction.

The huts were to be sited in the Mingbo Khola. To locate the best approach route and fix the sites, Bishop and I went up that valley early in October, to get beaten back by great depths of snow which could not be coped with in our unacclimatized state. Ten days later Bishop and Romanes did travel the full length of the Mingbo and climbed the two cols of almost 20,000 ft. which give access to the Hongu further east. Their report began the first misgivings regarding Hillary's intentions. He had suggested investigating these cols for his top-hut site, but to us both looked unsafe. Hillary had previously crossed one of them but had not carried out a detailed examination for construction purposes.

Meanwhile the build-up of hut materials, food, fuel and scientific equipment was pushing into the Hongu. Romanes was the senior builder of the lower hut, at 17,300 ft. on good sand and gravel, and constructed of a local timber frame, two layers of sisalation, netting and heavy canvas. The two protective layers four inches apart provided a very effective insulating cushion of air. The purpose of this hut was to provide a safe retreat in the event of altitude or weather affecting the occupants of the higher hut.

At this stage Doctor Griff Pugh and forty coolies arrived at Base. The acclimatized members of my party began a serious attempt at establishing themselves on the northerly of the two Hongu cols. A winch was erected there, at the top of 400 ft. of fluted ice. One hundred loads were carried up to the foot of the winch line. In a fearful wind the climbers began to drag the hut sections up the flutings, but the winch frame collapsed before real progress was made. A retreat was made for timber to repair the damage and at that stage we were joined by Hillary and his party.

We learned that Nevison and Barcham had crossed from the Rolwaling at the end of October and had climbed a 21,000-ft. peak on the east side of the Ngojumbo glacier and were soon to join us after coming down the Khumbu.

An intense search had been made for yeti clues in the Rolwaling. There were several false alarms from the Sherpas who were enthusiastic but not expert trackers, and they called out the experts for many old and unlikely depressions in the snow. However, several

groups of very useful tracks were followed and photographed. The most revealing was from an animal of fox proportions which showed four distinct pad marks when travelling downhill, but when it went up again it had a leaping action, when all feet landed together. In certain conditions of wind and sun the prints from the four feet almost matched those seen by Shipton in 1951, and they were certainly identical with many other 'yeti' prints.

Several skins of blue bear were purchased from Tibetans along with those of many other creatures. The blue bear is a rare animal and has not been reported in Nepal. Many of the tales of Sherpa sightings of yeti would fit descriptions of this animal.

With Hillary's arrival from the Rolwaling via the Teshi Lapcha the first stage was completed. The party had settled down, was well acclimatized, some minor climbs had been done, and the biological and zoological work had been most rewarding.

All the climbers moved to the Mingbo for the building of the upper hut. It was called many names, but 'silver hut' became permanent. The lower hut, called 'green hut' from its green canvas outer wall, was the base for this large construction party. Meanwhile, the zoological group was poring through the animal relics of the Khumbu villages.

The north Mingbo col was reoccupied in appalling conditions. The winch was working again, at about half an hour a load, but the slope of the col was frightening when considering a possible winter retreat down the flutings, and there was no sheltered hut site on the col. We retreated. The few loads which had come up were lowered and a good safe site was selected at 19,150 ft., an altitude which was satisfactory to the physiologists, and it had an easy route through to the green hut.

The silver hut was a cylinder of 11 ft. diameter and 22 ft. in length made from two layers of painted plywood having a 4-inch layer of polystyrene between them. These had been made in sections in England. Each weighed about 16 lb. and three together made a light but very bulky coolie load. The assembled sections were mounted on wooden foundations and beams, tightened and anchored with wire cables tied to kitbags of snow buried in 6-ft. pits. Jacks between the foundations and bearers were permanently installed to compensate for any snow movements during the winter. Joints were sealed, tables, bunks, generator and stove installed and preparations were made for the wintering party.

While the finishing touches were being done to the huts several attempts were made to climb the fine peak immediately east of Ama Dablam. It was a long mixed climb of ice, snow and rock.

accomplished eventually by Jim Milledge and Ang Tsering in the second week of November.

At this stage Romanes, Gill and I with nine Sherpas were away for ten days in the Imja. We worked for three days on the long formidable spur which rises to Lhotse Shar, in an attempt to examine the ground for a future possible climb. This peak has been of particular interest to me for some years. We pushed upwards for nearly 4,000 ft., only to be stopped short of 22,000 ft. by a complicated mass of séracs on a steep face which was strewn with avalanche debris. In my opinion it is no place for the line of camps necessary for an attempt on a mountain of 27,550 ft. Gill and Annallu made the first ascent of the more remote of the Island peaks. Romanes and I with Urkien and Ang Temba climbed to the Imja-Barun col for a further examination of the Lhotse Shar approaches. To me the easiest route is a long one—from the Barun to this col and then along the very long frontier ridge.

The summer parties withdrew. Hillary began a rapid world tour with the Khumbung 'yeti scalp', and the wintering party moved up to their quarters.

A HIGH WALK IN THE CENTRAL HIMALAYA

By A. D. MODDIE

A TIME comes when a man wishes to have his mountains and enjoy them painlessly. Then there are no summit ambitions, and one is content to see 'heaven in a wild flower'. Such a time had come when Gurdial Singh asked me to join him on a high-level crossing from Milam in north Kumaon (or Johār) to Bampa in north Garhwal. We intended to make this journey quite leisurely in a six-week circuit from Nainital to Dehra Dun, crossing six or seven passes on existing or old trade routes with Tibet. Their very names, Kungri Bingri, Unta Dhura and Shalshal La, were like wild mountain music. All we sought was our 'scallop-shell of quiet' and our 'scrip of joy', and we were content only to talk about others' 'gowns of glory' on high mountains.

Setting out from Kapkote we made as quickly as we could for Milam up the Goriganga valley. We wished to avoid both the heat and the rain of early June south of the main Himalayan divide. Gurdial was expecting the monsoon to break around the 24th June. But we had such a wet passage all the way from Kapkote to Bogdiar, which we reached on the 11th June, that his faith in the divide as a barrier was badly shaken. The leeches here had a strong partiality for him. Whether blood or flesh or bone, he had far more to offer, even though, at the time, Gurdial thought I consumed much more than he.

After these early rains the Gori was a torrent of brown fury. This side of the divide it falls several thousand feet in a few miles. In one place the river so forces a mad passage through narrow rock walls barely ten yards apart that it sends up a spray fifty feet high. The Gori has carved fantastic surrealistic shapes out of striated rock. In one place there was a large overhang of moss with water dripping down in perpendicular strings like those of a harp.

At last we crossed the divide after Bogdiar. We seemed to have left monsoonish weather behind, and we now emerged on the Milam side into an Alpine playground with white Anemones thriving in the wind, purple Primula on well-watered slopes, and clusters of Thyme in higher and drier places. There were white and red wild roses too along the way. Milam nestles in a wide valley at the entrance to the Unta Dhura and Kungri Bingri passes. It has

so impressive a background of rock and snow mountains that Gurdial called it a Chamonix or a Zermatt.

We spent three days in Milam, partly in sordid bargaining for pack animals, and partly in the giving of our surplus milk powder to the children of Milam. Of all hill people that either of us had known, the Milamese were the hardest bargainers, and among them we had to do business with the only man who had animals available so early in the season. We at last set out with six animals and two Joharis, Uttam Singh and Manaram. After Milam we would be above 15,000 ft. for three weeks.

Glad to turn our backs on the horse trader, we set off for Dung and the crossing of the Unta Dhura pass (17,640 ft.). We were the first in the season to cross. In fact, the Joharis were a bit amazed at our doing so because the Tibetan *surzi* (revenue official) had not yet come over to extend the customary invitation. As we were not going into Tibet but just up to the frontier, we saw no reason to wait for an invitation. Gurdial and I went ahead. Having passed a deposit of the bones of animal carcasses just below the ascent to the pass, we thought we might wait for the rest of the party. The rest was most welcome. After an hour we decided to climb up slowly over shale. It was heavy going in a rather breathless condition. To our amazement, we saw the rest of the party crossing the pass much ahead of us. They had followed another route. To cap it, Kallam Singh, our cook of 42 from the Doon School, was making the crossing of the Unta Dhura on the skyline above us at terrific speed and in a unique style. He literally went over by horse-power, holding on to the tail of a pony. All he had to do was to put one foot before the other in quick succession. The animal pulled him on. This, incidentally, was also his altitude record up to then.

By the time we reached the top, Uttam Singh and Mana had cut steps in the ice on the far side to enable the animals to descend. They had an anxious time in cold and blowing weather, but now, as always, they did their job competently. Cold winds and sleet drove us down to Topidunga, but we were compensated by an abundance of blue Primulas and yellow Potentillas on lush banks after we got off the snow. On our side there were these lovely little flowers facing the stupendous bare granite features opposite. Seldom is there such a vast contrast in nature in colour, form, size and spirit facing each other across a little nameless stream.

Arriving at the lush green camp site at Topidunga we crawled into our tents cold and wet, with a cheerless clouded prospect outside. And so it remained for the next two idle days. We had

earlier intended to make the Kungri Bingri pass, but in that cheerless mood Kungri Bingri was left behind as an unfulfilled wish, too extended an exercise for pleasure, for we would have had to go back 10 miles and cross another intermediate pass, the Jandi Dhura (18,410 ft.), on the way. So we stayed on to see what joys Topidunga offered, and it had much to offer when the weather would clear.

Next morning we had one delightful hour before being shut in again. We awoke to find a white mantle of new snow all around, but with the sun's first gentle touch it was transformed into green pasture again. Up above, the new snow clothed the austere, rugged rocks of Jandi and Khingur as with a white lace. But the early morning scene westwards down the Girthinganga towards Uja Tirche (20,350 ft.) had the quality of a Japanese painting. Dim snow shapes were delicately visible through thin veils of cloud and mist. There were no sharp lines between white or brown ridge and blue sky. A light brush painted mountain, sky and mist into one exquisite composition on silk. Then, as the sun's strong power rose with the day, Japanese art gave way to clear-cut Swiss scenes of mountain and green alp, and the magic of mist dissolved.

Between the glistening rivulets the blue Primulas smiled and tossed in the wind at the prospect of this cheerful morning hour. As we breakfasted out of bright-coloured polythene cups on the green grass, Gurdial thought 'bliss was it in this dawn to be alive'.

For the rest of the day we were driven into the tent again by bad weather, there to talk of life on Mars and the Chinese across the border. To make the depressing prospect lighter we read verse to each other, and made joyful noises with flute and the cat.

The third day our patience was rewarded. Under the sun and a clear blue sky we roamed the heights around photographing flowers. This may seem like play, but it was a breathless business, running up and down banks finding just the right picture, then waiting for the breathing to slow down and steady the hand before a cloud came over or the wind shook the flower. Meanwhile, one waited long minutes in a cold wind. Altogether it was a day of poetry and pleasure. There were banks of Primulas in profusion, from pale violet to purple in round clusters. But the prize of the day was Gurdial's discovery of four white Primulas, of the species *Primula Schlagentweitiana*. We had not known them in this colour before. All the summits around were fresh and clear in their new mantle of snow; only Uja Tirche was enclouded down the Girthing valley. On such a day there is no envy for summiters. At this elevation of 15,000 ft. we could enjoy this alp, bask in the sun's warmth, and

yet find close companionship with the peaks around—all in long, quiet admiration; no breathless race to the top.

On the 20th June we crossed the Khingur pass (17,270 ft.), the toughest we had yet crossed. The ascent began from the Girthi gorge. Murray once described it as being as impressive as the famous Rishi Ganga. At the point of crossing the gorge was barely ten yards wide, and the scenery around was like that of the Grand Canyon, but here the rock strata was diagonal and diabolically distorted. Ice still filled the gorge and steps had to be cut for the animals. The 2,700 ft. ascent to the top of the pass in two miles was steep and unrelenting, save for the last half mile. These slopes had loose scree at a very steep angle. They could be dangerous after a shower. Uttam Singh told us the pass was no longer used, but the pioneers who made the way must have been ingenious and brave.

After crossing the Khingur we came down to the promised land of Laphthal, a bowl of green grass under a clear blue sky in the warm sun. Turning our heels on the monsoon, we asked ourselves, was this really the high land of escape beyond the Himalayan divide, in the lap of the Zaskar? We were less than four miles from Tibet as the crow flies. If one of the main purposes of the trip was to seek flowers and fossils, the walk to Laphthal provided both. We came up from Chikmagu cautiously, like hunters in hushed expectation, to take a close look at the fleeting 'burhal'. We saw no 'burhal'. Instead, we came upon the ages-pent ammonite fossils. These were only the first in a thirty-mile belt from the source of the Kio Gad to the Tunjan, far above Bara Hoti. Here, as elsewhere along this route, these fossils had us excited and searching. The Geological Survey of India have since confirmed they are ammonites of the Upper Jurassic age. There were the plants too, now mostly of the mountain desert type. The caragana bush was everywhere except on the steepest scree slopes. There were yellow *Corydalis* and blue *Geraniums*. More white *Primulas* and purple *Asters*. But the flower which stole my heart was the tiny white *Androsace* (or so we thought, till Gurdial later discovered they were the hopelessly unpronounceable *Lamium rhomboideum*). They hid in coy clusters on the north-facing slopes of the Khinga in the shelter of rock or caragana bush, and there was nothing prettier here.

At Laphthal and at Sagchatalla we lived the life of Lotus-eaters. So lazy were we that the distance between the two camp sites was only three miles, and we joked about the 'teen mile ka padāv' or the three-mile stage. After we ate we dropped down to sleep in the sun. While all, including the dog, slept, nothing stirred but the

wind in the air and the water in the stream. Even Manaram, our muleteer, snored, and his animals were let loose to graze. Here was delicious peace. We at last found escape from monsoon clouds.

‘And hope revives—the world has changed its face
In that short time, away then to the pasture’,

and that is where we were, where horses graze leisurely, and men and dogs sleep in the warm afternoon at 14,500 ft. Why should we alone toil when nothing else around seemed to toil; only the cloudlets floated on gently.

The next day, June 23, was one of those few glorious God-given days on some high point of peak or ridge or pass. The weather clears, the face of heaven shines, and the prospect around is so sublime that to return is like returning to one’s lower nature. To turn back is a wrench; but before one does that one savours every moment of peace, of solitude, of beauty. Sometimes those moments are the reward of toil, sometimes for bearing up with bad weather or danger. To us the reward came cheaply, for bearing up with early monsoon conditions perhaps. For the climb to the Banchar Dhura pass (17,660 ft.) is one of the easiest.

The great expectation we nursed on the way up was to see Kailash on the Tibetan side. As we came over the top of the pass in clear weather under blue skies, all eyes were for the holy mountain, of which Kalidas had once sung. But it was hidden behind a ridge in the near distance. For a few minutes Kailash was forgotten, for there, before us, was a bright carpet of yellow Ranunculus; such an affirmation of life and beauty in this bare brown landscape so high up. They captured our hearts instantly, and stole our thoughts from Kailash.

As we turned, behind us we saw the entire Central Himalaya lifting itself up like a colossal canvas, all but the Panjab-Chuli group. Hardeo and Tirsuli, both near, both over 23,000 ft. commanded the view. The two undisputed sovereigns, Nanda Devi and Kamet, rested in quiet assurance in the background, and all around them lay their famous satellites in clear array, Nandakot, Nanda Devi East, Chaukhamba, Abi Gamin, Mana and Mukut Parbat.

Where was Kailash? We turned our eyes to Tibet again, and moved up the Banchar Dhura ridge to a rock height about 18,200 ft. There Kailash was, fifty miles away, the only white mountain in a brown land. It had the quality of Shangri-La, a remote and heavenly place. We sat and photographed on red rocks covered with a red ochre fungus, like *kum-kum*. The south wind brought little white flakes of snow over the ridge. They flew over like butterflies.

Nothing else stirred, there was no visible life. Kallam Singh, our cook, pressed us with questions about the towns and villages of Tibet—where were they?—and about the origin of the earth. He had achieved three things this day, and this was his reward. He had crossed 18,000 ft. for the first time; he had had the 'darshan' of two holy mountains on one day, Nanda Devi and Kailash; he had gone up 3,000 ft. in 3 hours at 140 heart-beats to the minute, at the age of 42 with a waist-line of 42. All this, he solemnly said, he would record in his 'dairy'. This memorable experience would go down beside the prices of potatoes and onions. It reminded Gurdial too that it was the anniversary of his ascent of Trisul, and it was a fitting day.

When Kallam and Manaram went down, Gurdial and I lay among the yellow flowers to drink our fill of stillness and colour and mystery. We ate and looked over the mysterious plateau before us, so boundless and remote, so unpeopled, and yet also the scene of the latest international crisis. Whilst talking to Kallam a few minutes earlier we had told him that all things change, like the clouds, only some take longer, like rocks and mountains.

I came down from the Bancha Dhura. After this we made our way westwards towards Bara Hoti, stopping at Lake Camp and climbing the col on the Tibetan border at 18,700 ft. On the way we crossed three easy passes in a day, the Chhojan La, the Shalshal La, and a nameless one of about 16,400 ft. Our last stop before Bara Hoti was at the camp site of Atis Sem, where there was another mine of ammonite fossils. Before the sun went down I collected a few more, and here they seemed finer specimens. Then the sun sent its setting rays right through the tent door, and, outside, it made the streams flowing through the green meadow sparkle like quicksilver.

On July 2 we left Bara Hoti to cross the Chor Hoti Dhura (17,900 ft.) and return to Joshimath. By 4 p.m. we arrived at Bamjar below the pass. It was wet and windy on the way up. We debated whether to make it a long day and cross by 7 or 8 p.m., but wisely decided to do so in better weather next morning when we could photograph.

We awoke at 5 and left at 6 a.m. The climb up the Chor Hoti was mostly over scree and rock, but the early morning scene was delightful. On one side were the red-rock Marchok peaks of the Zaskar range. From one angle the 19,450 ft. Marchok peak was like the Mustagh tower. Its twin summits went gold with the touch of the dawn. On the other side, the snow slopes and glaciers were

of the Himalayas proper. It was good to tread on snow after so much scree on the last slope up to the pass.

When we arrived there at 8 a.m. we were just in time. This was another purple day. To the south the Central Himalaya shot up like white swords and black daggers. It was a magnificent view of the fluted ridges, the ice-walls and the challenging white summits of Trisul and Dunagiri, Nanda Devi and Tirsuli, Lampak and Nanda Ghunti. To the west, the white tops of Kamet and Mana were like iced cakes over chocolate ridges. All this was given to us for just half an hour before the clouds rose all around to obscure the view.

At Bampa we spent our last evening around a camp-fire with Uttam and Mana. After so many days of wonderful companionship they now had to return to Milam and to their high passes; we to the lowlands. Mana, the poor shepherd boy who had barely spoken half a dozen sentences in all these weeks, now spoke with emotion: 'Tomorrow where shall we camp apart? The thought makes me sad.' He, at last, was able to speak for all of us. In the morning they left us with their last night's embers still burning behind them.

ASCENT OF NOSHAQ

By DR. YAJIRO SAKATO

THE Academic Alpine Club of Kyoto (A.A.C.K.), which succeeded in the first ascent of Chogolisa¹ in 1958, planned to make a scientific and mountaineering study in the Afghan Pamir in 1960. Favoured with the support of H.E. Dr. Majid, Royal Afghan Ambassador in Japan, it was decided to send a party to make biological and geological surveys in the valley of the Wakhan, or the upper Oxus, and to try to discover a possible way to the summit of Peak Noshaq (7,490 m.) in the Hindu Kush range.

The party members were as follows: Dr. Riozo Yosii, biologist, age 46; Dr. Hideo Sawata, geologist, age 43; Yukiharu Hirose, engineer, age 30; Toshiaki Sakai, post-graduate student of geography, age 28; Goro Iwatsubo, post-graduate student of forestry, age 26; and myself, Dr. Yajiro Sakato, biologist, age 54, being the leader of the party.

As soon as our party reached Kabul in the beginning of June, 1960, we commenced negotiations with the Afghanistan Government authorities, applying for a permit to travel through the Wakhan and the ascent of Noshaq. Though some 20 days were spent in the negotiations and arrangements, we could not get the permit to the planned project and finally we had to reduce our project to a great degree, satisfying ourselves with the climbing of Noshaq and scientific work in the adjacent regions.

A Danish officer O. Olufsen,² who explored the Pamirs in 1896-99, mentions a peak Nushau (7,460 m.) of the Hindu Kush range, and Mr. H. W. Tilman,³ who travelled down the Wakhan in 1947, gives no description at all of the mountain, and in the report of the Norwegian Tirich Mir Expedition⁴ of 1950 there can be seen no reference to Noshaq, which was only some 12 miles to the north of their objective. The only material that we could gather of the mountain before our departure was a photograph of mountain panorama⁵ taken from the summit of Buni Zom, showing a snow-white pyramid seen at a great distance, which was hardly useful

¹ *The Himalayan Journal*, Vol. XXI, 1958.

² O. Olufsen, 'Through the Unknown Pamirs.' London, 1904, p. 18.

³ H. W. Tilman, 'Two Mountains and a River.' Cambridge, 1949.

⁴ The Norwegian Himalayan Expedition, 'Tirich Mir'. London, 1952.

⁵ *The Himalayan Journal*, Vol. XVII.

from the viewpoint of mountain climbing. Leaving Kabul on July 1st, the party proceeded by jeep to Faizabad, the capital of Badakshan, and to Borak, and after some difficulties in the course of the way along the swollen Kokcha river, we arrived at Ishkashim on the upper Oxus or the Ab-i-Panja on July 14th. Then we went by caravan of horses and donkeys along the Ab-i-Panja, a troop of some dozen soldiers of the Ishkashim garrison accompanying us. After a camp at the village of Qazi Deh, where the Qazi Deh river joins the Ab-i-Panja from the south, on July 17th the caravan ascended the Qazi Deh river up to the confluence of an eastern tributary, the Mandalaz by name, where Base Camp was built on a small river terrace at an altitude of 3,080 m. Up to there, we could tread on the foot-path on the right bank of the Qazi Deh, but the stream of the Mandalaz was swift and violent enough to stop our caravan going further.

Next day the way up the main Qazi Deh valley was reconnoitred as high as about 3,900 m., where a suitable camp site was found on the right bank of a glacier, the snout of which comes down to about 3,500 m., filling the whole valley with a mass of black wastes of slate. We named it the Qazi Deh glacier. The next day was spent in building a small bridge of slender willow trees across the Mandalaz.

On July 21st, Hirose, Sakai and Iwatsubo ascended the valley with eight coolies and pitched Camp 1 at an altitude of 3,800 m. They made a reconnaissance on the glacier next day. Going up on the small right abrasion valley or on the marginal moraine they reached a point at about 4,600 m., where the glacier after bending its direction to the south-east was joined by a branch from the north, in front a massive mountain of rock and snow towering nearly 3,000 m. above them. They called this the fore-peak and the summit of Noshaq seemed to be hidden by this gigantic fore-peak. The head of the northern branch glacier is encircled by a precipitous wall hanging from the lofty ridge which runs from the fore-peak to the north, while the main glacier still extends to the east between the southern slope of the fore-peak and the knife-edge of the main Hindu Kush range. According to the quarter inch map (No. 37P) of the Survey of India a long strip of snow-field seems to lie at the source of the glacier. A site for Camp 2 was found close by a small pool of clear water on the moraine-covered glacier, at a height of 4,500 m.

After a pause at Camp 1, Sakai and Iwatsubo built Camp 2 with the help of two porters on the 24th and next day they went up the glacier to reconnoitre and reached a height of 5,300 m. After

the second northern branch, the main glacier becomes steeper and free from wastes of black moraine but in parts very troublesome snow made a little dangerous by a network of crevasses. It provides a rather easy way on the whole. A little farther up the glacier seemed to be narrowed to a neck about 100 m. in width. They suffered from headaches and could not ascend high enough to look into a sanctuary which was supposed to lie beyond the neck.

It was not until August 6th that the next climbing commenced, for one of us had caught a serious cold and had to stay at Base Camp, while Sawata and I went down to Ishkashim to get a permit for photography in the mountain area, which had been strictly prohibited by the Commissioner at Ishkashim because it was the frontier region. In the meantime, Sakai and Iwatsubo went up the Mandalaz river to a height of 4,200 m., and on another day Yosii and Sakai reconnoitred a western branch of the glacier and reached a col at its head, c. 5,000 m., on the side ridge separating the Qazi Deb glacier from the glacier sources of the Wakhan Gol river.

Hardly had Sawata and I returned to Base Camp on August 5th when the Polish mountaineering party reached there. We were very surprised to hear that the aim of the party was the same as ours and that they had been afraid that the peak was already trodden by us.

Sakai and Iwatsubo went up to Camp 2 on August 7th. Next day they ascended the glacier as high as about 5,500 m., finding a camp site on the snow slope just beyond the neck of the glacier. A little farther up there seemed to be a snow col at the head and the actual topography differs considerably from that shown on the quarter inch map. To the south a gigantic ice cornice hangs from the rocky ridge of the main range and to the north falling stones were threatening on the steep flank of the side ridge separating the main glacier from a branch that joins some 2 miles from Camp 2.

They returned to Camp 2 when Yosii reached there with three selected porters. On the 9th, Sakai and Iwatsubo built Camp 3 and porters worked in bringing up equipment and food necessary for the higher camps. Next day a porter alone came up again, the rest did not venture to bring luggage on the snow slope, while the two members took a rest at Camp 3. Next day was spent in reconnoitring the way further up. The col was reached in one and a half hours, where they could get a good view of the mountain ranges from Istor-Nal to Tirich Mir, 7,700 m., and below the great expanse of ice of the Atrak glacier. A steep slope of wind-crueted snow leads to a narrow rocky ridge coming down from the southern flank of

the fore-peak, at the junction point of which is a steep rocky ridge about 600 m. in height, which has to be scaled before one gets to the fore-peak itself. Rarity of oxygen and headaches compelled them to turn back at the height of about 6,500 m. and they returned to Camp 2 in the evening.

The following two days were spent resting at Camp 2, the advance base for the climbing. In the meantime, Mr. Schwashinsky, leader of the Polish team, visited our Camp 2 and talked about the possibility of a joint attack of the Polish-Japanese members. Since their arrival at the mountain foot was some twenty days later than ours, neither were their encampments yet completed nor was acclimatization acquired by their members. We had only two members who were able to attempt the summit assault and could not wait for too many days, so the project of a joint attack was given up and we were to make the attempt alone.

On August 17th, Sakai and Iwatsubo started from Camp 4 at 5-30 a.m., the weather being fine with a slight wind. Roped up with 20 m. of rope, they reached the base of the rocky ridge in an hour and without any difficulty got to the snow col. A rucksack, burner set and some provisions were left there. It took about 5 hours to climb the rest of the ridge, 400 m. in height, consisting of unsound rock, crusted snow and in parts soft snow. It was 1-30 p.m. when they reached the upper end of the ridge, and before them there stretched a vast snow-field at the head of a small glacier which hangs down to the south-east. The top of the fore-peak still towered above them and the summit of Noshag was visible beyond the snow summit ridge which runs from the fore-peak to the north-east. There are two side ridges from the summit ridge. They decided to climb the eastern and longer one. Traversing obliquely on the soft snow was laborious work and it took a long time to get to the base of the ridge. They were affected by rarity of oxygen and had to rest every 50 paces. At 5 p.m. they reached the summit ridge. The summit of Noshag seemed to be a hill of brown wastes about 400 m. away and 150 m. high. It was just 6 p.m. when they stood on the highest point of the mountain and they left a pair of small wood-cut dolls as a monument. In the faint sunlight they took some photographs. Summits of Tirich Mir and Istor-o-Nal were seen floating on a sea of dark clouds. The northern side of the summit forms a formidable precipice of more than 3,000 m., directly down to the surface of the Atrak glacier far below.

After 30 minutes' stay, they commenced returning and hurried down to camp. While they were descending the head of the small

glacier with the help of a torch, one of them broke through a thinly-snow-covered crevasse. They decided to pass the night in the crevasse for they discovered that it provided a suitable snow shelter for the purpose. It was 8 p.m.

They started early next morning and safely returned to Camp 4 at 11 a.m., and on August 19th came down to Camp 2 where the rest of the party had been waiting.

Leaving Base Camp on August 24th, the party came back to Ishkashim and returned to Borak on September 4th. After visiting Lake Shiwa, the famous grazing ground of the Afghan nomads, the party reached Kabul on September 19th.

(Later we heard that eight members of the Polish team succeeded in the ascent of Noshq about 10 days later than we, and discovered our wood-cut dolls.)

Information on Alpine flora of the Hindu Kush and Karakoram Mountains in Afghanistan is given in the review of the 'FLORA OF AFGHANISTAN' published in this Volume.—EDITOR.

OBITUARY

ING. PIERO GHIGLIONE

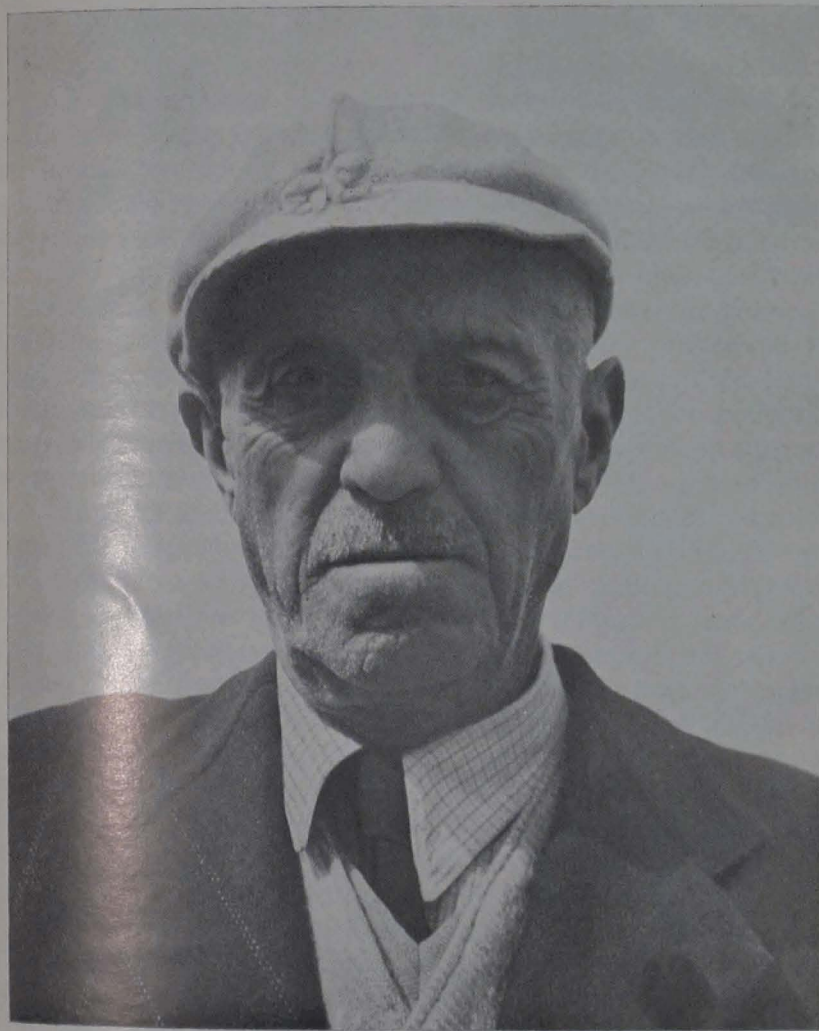
FEW mountaineers have had as wide and varied experience of the great mountain ranges of the world. Mountains to Piero Ghiglione were his life. He had climbed on all the continents of the earth and his successes on high mountains ranged from South America to Africa and from Australia to the Himalayas. Perhaps his greatest contribution to mountain exploration was in South America with eight expeditions to his credit. As early as 1934 he was in the Karakoram Himalaya taking part in the first ascents on Queen Mary Peak and Golden Throne.* In all, he took part in four major Himalayan expeditions. In all his varied and wide experience on mountains, only on one expedition was there a great tragedy, that on Api in 1954 when all his three companions were lost, one whilst crossing a torrent and the other two high on the mountain. In no way was Ghiglione to blame for this loss.

In the last year of his life before his tragic end in a motor-car accident in Italy he celebrated his 77th birthday by a new route on the Congo side of Alexandra Peak of Ruwenzori; and in the same year travelled north with an expedition to Greenland. His stamina and physical ability for a man of his age made Piero Ghiglione a legendary figure in the world of mountaineering. It is true that he was sufficiently blessed with the financial means to be able to travel at will, but travel he did, and that at an age when most men are thinking of a life of quiet and ease. He always maintained the enthusiasm and love of adventure of men many years his junior.

Piero Ghiglione was my companion on expeditions to Disteghil Sar in the Karakoram range in 1957, and in the Everest region in 1958. We had also climbed together and roamed amongst the hills of England and Scotland. Never have I met a man I respected more for his undying love of mountains. Piero Ghiglione was a unique character amongst mountain men.

ALFRED GREGORY

*Baltoro Kangri.



PIERO GHIGLIONE

REVIEWS

PILGRIMAGE FOR PLANTS. By FRANK KINGDON-WARD, O.B.E., M.A., F.L.S., V.M.H. *George G. Harrap & Co., Ltd., London.*

In the 15 chapters and 187 pages the author has dealt with in a nutshell his experience and association with some of the striking plants studied by him in the field during his many adventurous expeditions and journeys in the far-flung mountainous countries of East Asia for a period of over 45 years. His notes based on personal observations on some of the alpine, sub-alpine and temperate rain forests are of considerable scientific value. The seeds collected during Kingdon-Ward's plant-hunting expeditions proved to be a valuable asset not only to the horticulturists in the United Kingdom but also to the botanists and gardeners in other countries overseas, where most of these ornamental exotics have been successfully introduced, acclimatized and grown much to the advancement of horticultural science. His notes on the habitat and distribution of some of the most beautiful flowering trees, shrubs and herbs are extremely valuable to systematic botanists and phytogeographers. His field observations on magnolia, cherry (*Prunus*) trees, blue poppies (*Mastomopsis*), enchanting primulas, magnificent rhododendrons, lilies, dazzling blue gentians, musk plant (*Mimulus moschatus*), attractive slipper orchids, glorious Rima dogwood (*Cornus chinensis*) and coffin-trees supply inexhaustive materials for solution of the much-vexed botanical problems of endemism and migration of species. The subject also provides ample food for thought to all plant lovers and field botanists.

Frank Kingdon-Ward's venture risking his life many a time with his equally adventurous wife, Jean Kingdon-Ward, led to the discovery of many plants new to science, several unknown rivers and ranges of mountains on the border of North Assam, Burma and China. Both took infinite pains and underwent great hardship with a view to tracing the wild 'Tea plant'. His dramatic discovery of the large-fruited *Camelia* species, a doubtful ancestor of the cultivated species *Thea sinensis*, while camping near the Glo lake at Dapha Bum near the head of the Kamlang in Sadiya, North Assam, offers an interesting hypothesis which is worth exploring by prolonged field research and phytogeographical and cytogenetical investigation.

His enormous collection of fruits and seeds during a period of over four decades found their way into numerous gardens in Europe.

Himalayan Journal

Some of them even are now found growing almost wild along the roadsides in England and Scotland. All these flowers immortalize Frank Kingdon-Ward's achievements much to the admiration and respect of his many friends and horticulturists at home and abroad who happen to know Kingdon-Ward—the world-famous naturalist and the plant collector of the highest order.

Valuable suggestions given in the concluding chapter on 'Geography and Living Standards' deserve careful consideration by all concerned. He remarks: 'So far as the actual species are concerned, the foundation of forestry is botany. Botanic gardens, herbaria and research institutions are essential tools for the exploration and utilization of forests; the correct identification of species is a strict necessity. But with the material and literature so widely scattered as it is today, and the changing modern nomenclature of species, this becomes ever more difficult. The amount of time, money and human effort wasted because of wrong identifications, or because people are really discussing two different plants, is almost incredible. However, today the time and expense involved in building up a modern research centre have made such an enterprise a rather remote possibility, although, of course, in India (e.g. Dehra Dun, Calcutta Botanic Garden and many other places), Singapore, Java (Buitenzorg—modern Bogor—was the finest tropical botanic garden in the world), and elsewhere, such research stations have long existed, but need to be kept up to date. Recourse must therefore be had to other means. It is suggested that a botanist from each country of South-east Asia might be attached to one or other of the botanical institutions in Europe, where he would have access to the collections of Asiatic plants and their literature, and then act as liaison between the European pool of knowledge and his own Government institution, while working on the materials for a Flora. The ideal to be aimed at would of course be a Flora for each sovereign State, or at least regional Floras. (There would have to be several of these for Burma alone.) While there exist for India a number of good regional Floras (none of them very modern, however), and a comprehensive, though still less up-to-date, Flora of India, there is very little of the sort in existence for the other countries of South-east Asia. Ceylon and Malaya have their Floras—the former far from up to date—and the magnificent Flora Malesiana is appearing periodically. But much remains to be done elsewhere, especially in the realm of local Floras which could be used in schools. For, unless interest can be aroused in the young, the required number of biologists in general, and of botanists in particular, to study and make use of the rich tropical vegetation

will never be forthcoming.' This valuable advice needs special attention of the botanists and administrators of South-east Asia, particularly of India where along with the progress in other fields, Herbaria and Botanic Gardens demand special attention in order to preserve them properly and bring them up to the highest standard.

The biographical Introduction by William T. Stearn and the list of Kingdon-Ward's publications and index are valuable additions to the book and these are very useful indeed to botanists and horticulturists.

The printing of the book is good and the photos and sketches are excellent.

The book deserves to be widely read with profit and pleasure.

K. BISWAS

COMMON MEDICINAL PLANTS OF DARJEELING AND SIKKIM HIMALAYA. By Dr. K. BISWAS, M.A., D.Sc. (Edin.), F.R.S.E., F.N.I., F.A.S., F.B.S., *Ex-Superintendent, Indian Botanic Garden, Calcutta, and Director, Medicinal Plants, Government of West Bengal. Pp. vi + 157, Government of West Bengal, Commerce and Industries Department. Superintendent, Government Printing, West Bengal Government Press, Alipore, West Bengal. 1956. Rs.7 or 11s. 3d.*

Dr. K. Biswas has written a valuable book on 'Common Medicinal Plants of Darjeeling and the Sikkim Himalaya' with a Foreword by Lt.-Colonel Sir R. N. Chopra, Kt., C.I.E., Sc.D. (Cantab.), F.R.C.P. (Lond.), F.N.I., etc. The book is composed of 157 pages, 9 photographs of vegetation of Darjeeling and Sikkim and pen-ink sketches of 50 species of medicinal plants.

It has been published at a time when botanists, pharmacologists, chemists and industrialists are taking a great deal of interest for identifying and utilizing the indigenous and exotic plants for the manufacture of herbal remedies for human ailments. Mountaineers are more and more keen in knowing the properties of such plants in order to use them in inaccessible areas, if and when occasion arises.

From a very remote past the Himalayas are known to be very rich in medicinal plants. In recent years several foreign and local expeditions have been made for the collection of useful plants from the remote regions of the Himalayas. In this context this treatise by Dr. Biswas will be a valuable guide for location and collection of medicinal plants, some of which are yet to be studied thoroughly by botanists, pharmacologists and chemists to assess their proper

medicinal properties. His interest in this aspect of botanical studies principally arose from his long association with the famous Indian Botanic Garden, Calcutta, as its first Indian Superintendent and worthy inheritor of the celebrated botanists like Roxburgh, Wallich, Griffith, King, Prain, Gage and others. Dr. Biswas is at present Director, Medicinal Plants, Government of West Bengal. Thus he has, in his various capacities, been able to gather sufficient information on the flora, ecology and geographical distribution of plants in the Sikkim Himalayas.

The book has six chapters dealing with different aspects of the vegetation. The first chapter begins with the historical background of some of the plants which were then known and used by the ancient people for healing diseases with charms and spells as prevalent at the early period of civilization. It also gives a concise account of the present-day common indigenous plants used by the local people in these hilly areas. Important works on Indian medicinal plants have been briefly described in the next chapter, pointing out the need for further detailed studies in the systematics, life-history and ecology of medicinal plants in these and adjoining regions. In chapter III general features of the vegetation of Darjeeling and Sikkim Himalayas have briefly been dealt with for the benefit of those who might be travelling in these mountains and are interested in the medicinal plants occurring in their natural habitats. The position of cinchona cultivation and the limitation of the output of this vegetable drug in view of the present uses of the synthetic substitutes for quinine has also been mentioned in this chapter. Chapters IV and V deal with classification and nomenclature and glossary of botanical terms which will undoubtedly be helpful to those interested in medicinal plants and their identification. The last chapter presents a systematic enumeration of the plants of Darjeeling and Sikkim Himalayas. About 147 species of medicinal plants have been described briefly with their diagnostic characters, distribution and parts used for medicinal purposes. It is a handy publication for collection and specific determination of medicinal plants common in the Eastern Himalaya.

It will not be an exaggeration to say that the treatise is an embodiment of profound knowledge in dealing with the flora of the Eastern Himalayas which the author has been studying since the beginning of his career as a botanist. I congratulate Dr. Biswas for his endeavour in bringing out such a valuable treatise which will inspire others to take interest in the plant resources of our country.

FLORA OF AFGHANISTAN. *Published by the Committee of the Kyoto University Scientific Expedition to the Karakoram and Hindu Kush. Kyoto University. 1960.*

This is a botanical publication which embodies the results of Kyoto University's scientific expedition to the Karakoram and Hindu Kush. The temperate and alpine plants dealt with in the book are, therefore, of considerable interest to the mountaineers. This magnificent volume of 486 pages contains one full-page coloured plate, two maps and forty beautiful photographs and also pen-ink sketches of all the plants new to science described in detail in Latin in conformity to the rules of 'International code of botanical nomenclature'.

The plants recorded in the volume were collected by the members of the expedition to the Karakoram and Hindu Kush mountains. The leader of the expedition was Hitoshi Kihara, D.Sc., Director of the National Institute of Genetics. The Hindu Kush team consisted of seven members of the different university staff of Japan, namely Hitoshi Kihara, Siro Kitamura, Kosuke Yamashita, Shinobu Iwamura, Toshi Yamazaki, Tadao Umesao and Takashi Okazaki. The Karakoram team was composed of five members, namely Kinji Imanishi, Susumu Matsushita, Kazuo Huzita, Sasuke Nakao and Naohiko Harada.

The flora of Afghanistan has been treated exhaustively under three chapters, namely Introduction, Phytogeography and Enumeration of the flowering plants. List of Literature and Index have also been added. This volume is the most important contribution towards the advancement of our knowledge of the flora of Afghanistan. The plants of Afghanistan were studied by E. Boissier in his famous volumes entitled 'Flora Orientalis', J. E. Aitchison, the English Surgeon-Major, and several others in the past, as mentioned in the book, but never so exhaustively the plants of the two mountains were treated as in the present volume. Hence this volume fulfils a long-felt want in the floristic studies of plants of Afghanistan. Observations on the phytogeography, the endemism and the distribution of floras are original contributions which throw much light on the difficult problem of migration of plants in this part of the world. Cryptogamic flora has been left out, but this will perhaps be the subject of study in future by some of the enthusiastic workers whose botanical exploration has resulted in the production of such a splendid volume.

In its synopsis the floristics has been summarized as follows: 'Ferns are few. The rarity is due to the arid climate. Gymnosperms

are represented by 14 species and are mainly Himalayan, and some of them are found in China. In the greater part of Afghanistan, the climate is too arid for the distribution of tall trees. The Himalayan members immigrated rather recently and have not changed in the new habitats. Monocotyledons are few. They are represented by 397 species, including 165 species of the Gramineae which are well represented, and the most advanced family of the anemophyllous are also well represented. The Orchidaceae which are the most advanced family of the entomophyllous monocotyledons have many genera and the species in the adjacent land, India, are very poorly represented, because of the aridity. Other monocotyledons, which are mainly either hygrophyllous or old primitive groups, are few in Afghan flora. Among dicotyledons, Choripetalae, the assemblages of the orders with free petals, are represented by 1,254 species and not so well developed as compared with Sympetalae, the assemblages of the orders with united petals. The latter are represented by 1,015 species'.

Notes on Subtropical zone (400 m.–1,200 m.), Warm temperate zone (1,200 m.–2,400 m.), Stepping-stone, Cold temperate zone (2,400 m.–3,600 m.), Subtropical zone (Chaga-sarai 820 m.–Gossalik 1,020 m.), Warm temperate zone (Gossalik 1,020 m.–2,000 m.), Cold temperate zone (2,000 m.–3,000 m.), Alpine zone (300 m. upwards). Floristic analysis and Comparison between the Afghan flora and the Japanese flora are valuable additions indeed, which offer considerable materials for floristic researches.

The book is extremely useful for mountaineers, students, teachers and research workers in Botany. It is of particular interest to the systematic botanists all over the world. The book will undoubtedly be a valuable possession to the botanical libraries and herbaria interested in the flora of the mountains of Afghanistan in particular and Central Asia in general.

K. BISWAS

LURE OF EVEREST. By BRIGADIER GYAN SINGH. *The Publications Division, Ministry of Information and Broadcasting, Delhi.* 1961. Rs.12.50.

This is the story of the Indian Expedition to Mount Everest in 1960. When some of us British climbers who had followed the blossoming of Indian Himalayan mountaineering with sympathy and admiring interest heard the Indians were going to Everest in 1960, it was difficult to resist the thought that this was a premature

move, made more in the interests of national pride than in the development of Indian mountaineering along sound and non-sensational lines. There seemed little doubt that given good management, weather and luck some Sherpa gladiators could be placed on or near the summit but the value, to Indian mountaineering, of such a costly undertaking was less obvious.

And such thoughts would have been further strengthened had one had the privilege of following then the events so vividly described in the early chapters of Brigadier Gyan Singh's book: *THE TRAINING COURSE*; 'for many of the students it was their first experience of an ice-fall'. And reading of the various events and crises connected with the preparations phase and the collection of equipment, told with a freshness of approach how difficult for a British writer to emulate, one can sympathize with the Swiss friend whose hair, on p. 34, 'stands on end' when he learns of the problem faced by the Brigadier and his gallant band of innocents.

We were wrong. Owing to impossible weather conditions the first assault group had to turn back at a height of 28,300 ft. and the second never got started from the South Col. But the height attained, and that this was short of the summit, is much less significant than the fact that 'Sherpa gladiators' apart, four climbers whom one must describe in this context as a 'non-hillman' (for lack of a better term) reached the South Col or beyond. And on the morning of May 24 Kumar's party had nine Sherpas capable of continuing from the Col to Camp VII: on May 25 Kohli retained five of his twelve Sherpas for the same task—the Swiss in 1952 and 1956 and the British in 1953 had different tales to tell. No doubt familiarity eases the way but none the less this subsidiary achievement of Brigadier Gyan Singh's party deserves special mention.

Brigadier Gyan Singh's book is easy to read and attractively written in a style sometimes reminiscent of Continental climbing literature. With Everest, 1960, and first ascents of Annapurna III and Nilkanta in 1961 Indian Himalayan mountaineering has come of age in a remarkably short time—the achievements of Indian mountaineers are rightly a subject of national pride carried out in the limelight of a good deal of publicity. There is the danger that the result may be rated more important than the adventure. The closing chapters of Brigadier Gyan Singh's book are not unnaturally somewhat concerned with what their country thought of the expedition's efforts. The author is the last person whom one could accuse of confusing the issues at stake. There remains the danger

that young climbers coming on the scene at this inspiring time may be encouraged to do so.

J. O. M. ROBERTS

NO PURDAH IN PADAM. By ANTONIA DEACOCK. *Harrap, London*. 1960. 16s.

I must admit that I find a book of this sort, slashing right across all the accepted conventions, thoroughly refreshing. Of course, this is partly because of the reasons whereby it came to be written. Also because the narrative manages to retain the wonderment and surprise which many of us tend to lose in the Himalayas once the first element of thrill has died down.

To these three women, drawn together by the departure of their husbands for the expedition to Rakaposhi in 1958, a visit to the Himalayas seemed a symbol of the unattainable. The whole thing began jokingly as a challenge. But once the plan was conceived, the seriousness of purpose with which preparations were made, does them great credit. Of course, this was not the first journey of this sort. (If 'firsts' must be claimed, as on p. 11, surely the palm goes to Mrs. Dunsheath in 1956.) Indeed, ladies' expeditions to the Himalayas are no longer as uncommon as they used to be.

Summed up briefly, their achievement rests in accomplishing, almost without a hitch, the 7,000-mile overland drive from Britain to the Himalayas and back, and fitting in a 300-mile trek, with several mountain passes and an 18,000-ft. peak thrown in. Only those who, like them, can arrange an informal interview with the Prime Minister of India can hope to have 'Inner Line' restrictions thrown overboard for them. With a permit in their hands, they possessed the key to a journey in a fascinating and seldom-visited part of Zaskar within range of the borders of Ladak. They were well looked after by their two Ladakhi porters engaged in Manali; and the carefree, holiday atmosphere generated cannot have occurred purely by chance. Indeed, good public relations characterize the whole venture.

This is essentially a travel book aimed at the lay reader, and written in a light-hearted feminine vein. Mountaineers familiar with the phases of exploratory travel, would be unkind to carp at the ingenuous approach as the expedition unfolds. The book is well illustrated with photographs, end-papers and a map.

Praise is due to the three women for the way in which they handled their preparations, wheedled out the right contacts, carried forward their journey, and later recouped most of their private

outlay on the expedition by presenting lectures, articles, and a thoroughly readable book. The wise, cautious and inexperienced, who have to make sure of all these things before they can start planning, will never get there.

T. H. BRAHAM

THE LAST BLUE MOUNTAIN. By RALPH BARKER. *Chatto and Windus, London. 1959. 21s.*

This is the story of a small British reconnaissance expedition to Haramosh, 24,270 ft., in the Karakoram in 1957. Unlike other expedition books, it is not written by a member of the climbing party, but narrated in the third person by a 'non-mountaineer unknown to any member of the expedition'. Ample facilities were accorded to the author, however, to study the climbers' personal diaries and to discuss the expedition with the climbers in detail after their return.

On the whole the narrative has been carefully handled. In drama and tragedy there is not much that can equal it in the Himalayas, except perhaps the Annapurna expedition of 1950. Capt. H. R. A. Streather, with his wide Himalayan experience, was invited to lead a party of four young climbers from Oxford University to attempt a mountain that had not been seriously reconnoitred before. Despite prolonged spells of atrocious weather, the very determined team pushed their reconnaissance to a point on the mountain where the route to the summit appeared practicable. (An Austrian party in 1958, following an almost similar route, climbed Haramosh.) At the point of descent, two of the party were involved in an avalanche and miraculously survived. Then began a terrible chain of events in which one fearsome tragedy followed another. Two climbers, despite overwhelming odds, set out on a rescue attempt. Without ice-axes, gloves, food or shelter, but united by a selfless team-spirit and by the will to survive, the party of four climbers spent three nights and three days on the mountain, attempting to climb back to safety. It is a story of immense courage. Two climbers perished; one from exposure and the other by a fall when he was within reach of safety. The two survivors were severely frost-bitten.

Mountaineers will not approve of some of the author's descriptions of the mountain scene. Nor will they agree that the Hunzas are the Sherpas of the Karakorams. There are a few printer's slips and some errors. Sassli is Sassi on p. 6 and Sursi elsewhere. The height of the Haramosh La is 15,752 ft., not 17,000 ft. It was a German expedition in 1955 and not an Italian one in 1954 that first explored the approaches to Haramosh. Despite these minor

faults and the rather poor quality of the illustrations, this is a well-told story of great bravery and devotion.

T. H. BRAHAM

BECAUSE IT IS THERE. By GEORGE LOWE. *Cassell, London, 1959. Allied Publishers, Calcutta. 21s.*

By far the largest part of Mr. Lowe's book is concerned with the Antarctic Expedition led by Sir Vivian Fuchs which was planned and carried out during 1955-58 for the International Geophysical Year. George Lowe was invited by the leader to join the British team as photographer. The official record of Fuchs' enterprise is contained in his book, 'The Crossing of Antarctica', and George Lowe's narrative supplements the story, enriching it with a wealth of personal detail and anecdote which is necessarily lacking in the official account.

In the course of a few preliminary chapters dealing with the author's initiation to mountains at the comparatively late age of 22 (at 12, after an accident to his arm, he was told he would be a cripple for life), we are given a short summary of climbs in New Zealand; a first expedition to the Himalayas in 1951 with Hillary and others; the 1952 Cho Oyu expedition. Finally, an excellent chapter on Everest, 1953 (but why 'an easy day for a lady'?).

The author is unnecessarily modest about his 'amateur' status as a photographer. Results, after all, count. He made quite an important contribution to the film 'The Conquest of Everest'; whilst the Antarctic film was all his work. In a short appendix there are details of the equipment used, and one can appreciate the particular difficulties involved in trying to produce the expedition film: a dark-room, devised by Kodak in London, accompanied him on the journey.

The story is told in an easy, light-hearted vein with personal portraits and amusing sidelights. In December, 1955, the author sailed south with the *Theron* party, leaving a team of eight at Shackleton to consolidate the Base. In December, 1956, in the *Magga Dan* the party returned for the main effort, and there is a keen account of their life at Shackleton Base during the Antarctic winter of 1957. In November, 1957, the party left Shackleton for the crossing of the continent. There follows a simple, factual record of this incredible 99-day journey of over 2,000 miles across Antarctica; the meeting with Hillary at the South Pole; and the final race to reach Scott Base before the onset of winter.

A very enjoyable book. There is one criticism which, strangely,

concerns photography; scarcely any of the illustrations depicts the atmosphere of Antarctica and the rigours of the journey.

T. H. BRAHAM

THE WHITE SPIDER. By H. HARRER. *Rupert Hart Davis, London, 1959. 30s.*

The title of this history of the Eigerwand climbs is taken from the name given to a prominent feature on the upper part of the wall. Once the climber has reached the White Spider there is no turning back; no escape except to the top, and many a drama has been enacted there. Why, then, is a book about the Eigerwand really necessary? The early Eigerwand climbs provoked much harsh and, let it be admitted, justified criticism. 'Eigerwand' tactics were widely condemned in general mountaineering practice. In the last 25 years, however, we have seen startling and revolutionary changes in mountaineering technique. Question Two—if the book had to be written, why did not someone do so earlier when the climbs were front-page news?

The answer to the first question is that harder climbs, technically, than the ascent of the Eiger's 6,000-ft. wall have certainly been accomplished, but none has equalled it for relentless exposure to danger and difficulty. Its ascent has been the ambition of some of the world's leading climbers; besides attracting many who were ill-equipped, either mentally or physically to face its demands. It has been the scene of countless tragedies, involving dramatic rescue attempts. As to the second question, the answer is that only now, after several ascents have been accomplished, can the climb be seen in perspective and chronicled dispassionately.

There will be many future climbs on the Eigerwand and they will always be important climbs. The history of past climbs emphasizes how narrow is the margin of safety, even for climbers who possess all the essential qualities, technical, moral and physical. Harrer is well qualified to present this chronicle. He was one of the party of four who made the first successful ascent in 1938. He writes graphically and he has taken great pains to collect and verify his facts. The scrupulous might quibble on points of detail; but on the whole this book achieves its main object by providing an accurate and objective review of the Eigerwand climbs.

The accusation that the early attempts were motivated by attitudes quite out of character with the sport of mountaineering is strongly refuted. With a few admitted exceptions this judgement is now generally accepted. Those few men, amongst them many great

climbers, who have climbed the wall have expressed the wish never to do so again.

The Eiger was first climbed in 1858. In 1932, two outstanding Swiss climbers with two leading Swiss guides reached the summit by the N.E. face—a remarkably fine ascent. The 6,000-ft. wall itself was regarded as ‘absolutely unclimbable’.

In 1935, two Austrians launched the first serious attempt on the unclimbable wall. After three days and two nights they died of exposure in their bivouac two-thirds of the way up. By 1938, the Eigerwand had claimed eight lives. But it was in that year that a team of four Austrians, including Harrer, succeeded in making the first ascent after three bivouacs on the face. The chapter describing this climb is the longest in the book and the most gripping, despite a brief ethical extravagance on p. 114. The survival of the party during a fearful avalanche on the White Spider is little short of miraculous. In 1947, the second ascent was made by the two French climbers Terray and Lachenal. A third ascent followed in the same year. In 1950, the fourth ascent was accomplished by two Austrian climbers in the remarkable time of 18 hours, a performance never since equalled.

During the 22 years since the first ascent, there have been about two dozen attempts. Fourteen have succeeded and nine more lives have been lost. In 1952, six ascents were made. One was a remarkable rope of nine climbers, Austrian, French and German (including Hermann Buhl and Gaston Rebuffat), who battled up the face under desperate conditions in which a less expert party might not have survived. It is interesting to compare Harrer’s account of this climb with the accounts Rebuffat and Buhl have written. Finally, the author discusses the tragic events of August 3–12, 1957, which led to the rescue, under almost superhuman difficulties, of an injured Italian climber after three other members of the party had perished.

The illustrations are of great interest. Apart from a vertical plate of the entire face (originally published in ‘The Mountain World’) on which distinctive features of the climb are shown, there are several remarkable climbing shots and four colour plates. Few pictures convey the dangers of the ascent and the desolation of the face better than those which face p. 112 and p. 145. There is a useful topographical sketch; a table of all the attempts; and a climber’s route guide at the end. The translation by Hugh Merrick is good. One feels that the price places the book beyond the means of the average climber, to whom perhaps the book will be of the most value.

T. H. BRAHAM

CLUB PROCEEDINGS, 1959-60

The Thirty-first Annual General Meeting of the Club was held at the Great Eastern Hotel, Calcutta, on Monday, June 29, 1959. Mr. T. H. Braham took the chair, and reported on the Club's activities during the year.

Officers, Elective Members of Committee and Additional Members of the Balloting Committee were elected as follows:—

Officers

| | | | |
|--------------------|----|----|---|
| President | .. | .. | R. E. Hotz, Esq. |
| Vice-Presidents | .. | .. | V. S. Risoe, Esq., M.B.E. T. H. Braham, Esq. |
| Honorary Treasurer | .. | .. | F. E. Whitehead, Esq. |
| Honorary Secretary | .. | .. | J. L. Peirce, Esq. |

Honorary Local Secretaries

| | | | |
|---------------|----|----|---------------------------|
| Delhi | .. | .. | L. J. Johnston, Esq. |
| Darjeeling | .. | .. | M. J. Cheney, Esq. |
| Bombay | .. | .. | R. E. Hawkins, Esq. |
| Kulu | .. | .. | H. M. Banon, Esq. |
| Dehra Dun | .. | .. | Gurdial Singh, Esq. |
| Karachi | .. | .. | W. A. Brown, Esq. |
| Great Britain | .. | .. | V. S. Risoe, Esq., M.B.E. |

Honorary Editor

T. H. Braham, Esq.

Members of Committee

| | |
|--|-----------------------|
| C. E. J. Crawford, Esq. | M. Hruska, Esq. |
| F. C. Badhwar, Esq. | Col. Gyan Singh |
| A. B. Marshall, Esq. | R. Lawford, Esq. |
| Gurdial Singh, Esq. | H. V. R. Iengar, Esq. |
| Lt.-Gen. Sir Harold Williams, K.B.E., C.B. | |

Additional Members of Balloting Committee

J. T. M. Gibson, Esq.
A. R. Leyden, Esq.
J. N. Mathur, Esq.

Other Appointments

Honorary Librarian .. A. B. Marshall, Esq.
 Honorary Equipment Officer .. M. Hruska, Esq.

The Thirty-second Annual General Meeting was also held at the Great Eastern Hotel, Calcutta, on Sunday, October 23, 1960, at which Mr. C. E. J. Crawford took the chair.

The following Office-bearers of the Club were elected:—

Officers

President Lt.-Gen. Sir Harold Williams,
 K.B.E., C.B.
 Vice-Presidents .. T. H. Braham, Esq.
 F. C. Badhwar, Esq., O.B.E.
 Honorary Treasurer .. B. W. Ritchie, Esq.
 Honorary Secretary .. J. L. Peirce, Esq.

Honorary Local Secretaries

Delhi L. J. Johnston, Esq.
 Darjeeling M. J. Cheney, Esq.
 Bombay R. E. Hawkins, Esq.
 Kulu H. M. Banon, Esq.
 Dehra Dun Gurdial Singh, Esq.
 Pakistan Col. E. Goodwin
 Great Britain V. S. Risoe, Esq., M.B.E.

Members of Committee

Dr. K. Biswas, M.A., D.Sc. A. Kauffman, Esq.
 (Edin.), F.R.S.E., F.N.I., R. Lawford, Esq.
 F.A.S., F.B.S. K. Patterson, Esq.
 C. E. J. Crawford, Esq. Gurdial Singh, Esq.
 R. E. Hawkins, Esq. Brig. Gyan Singh
 M. Hruska, Esq. Maj. E. J. Somerset, I.M.S.

Additional Members of Balloting Committee

J. T. M. Gibson, Esq.
 A. R. Leyden, Esq.
 J. N. Mathur, Esq.

Other Appointments

Honorary Equipment Officer . . M. Hruska, Esq.

The meeting was followed by an account illustrated by slides of the Indian Mount Everest Expedition, 1960, given by its leader, Brigadier Gyan Singh.

EXTRAORDINARY GENERAL MEETING: On September 24, 1959, an Extraordinary General Meeting was held at 34 Chowringhee, Calcutta, at which an amendment to Rule 10, regarding subscriptions, was passed as follows:—

‘Without prejudice to the powers of the Managing Committee hereinafter defined, the entrance fee and subscription payable by a member as from January 1, 1960, shall be as follows:—

| | | | <i>Resident Members</i> | <i>Overseas Members</i> |
|---------------------|----|----|-----------------------------|-----------------------------|
| | | | Rs. | Rs. |
| Entrance Fee | .. | .. | 30 | 30 |
| Annual Subscription | .. | .. | 35 | 20 |
| Life Subscription | .. | .. | 300 | 200 |

The Managing Committee shall have power at any time to vary the subscription payable by any class of member by an amount or amounts not exceeding one half of the subscription herein setted, and to make rules for the payment of a subscription of an Overseas Member in a currency other than Indian Rupees.

Patrons and Honorary Members shall be exempt from the payment of any subscription.’

MEMBERSHIP: The Club’s membership at present stands at 565, of whom 137 members are resident in India. The names of 31 Founder Members stand in the Current Members’ Register, and one Honorary Member, Sri Tenzing Norgay, G.M.

OBITUARY: We mourn the deaths of the following members:—

- Sir Bhagat Chandra, K.C.S.I. (L. F. 1928)
- H. C. W. Bishop (L. 1934)
- J. M. Sweet (1952)
- J. M. Bottomley, C.I.E. (1929, O.M.C. 1927)
- P. Ghiglione (L. 1939)
- Lt.-Col. J. W. Rundall (F. 1928, O.M.C. 1927)
- R. Kappeler (1948)
- J. Reid (L. 1928)

MEETINGS, 1959-60: Apart from the Annual General Meetings the following section gatherings took place:—

Calcutta: On April 3, 1959, by courtesy of the Alliance Française, the film of the 1950 French expedition to Annapurna was shown.

On June 12, 1959, on the occasion of the return of the French Jannu expedition, M. Jean Franco showed films of the 1954 Makalu reconnaissance and the 1955 ascent of Makalu.

On November 22, 1960, Mr. A. Kauffman gave an illustrated talk on the American Gasherbrum expedition.

Mr. Norman Hardie described the mountains of New Zealand with accompanying slides on December 3, 1960.

Delhi: The Delhi Section held its Annual Meeting on December 19, 1959, with an exhibition of paintings and photographs. Capt. Jagjit Singh addressed members.

Bombay: In January, 1960, a Club Meet was held for a scramble on Parsit Hill about 23 miles from Bombay.

In May Mr. K. V. Naoroji showed colour slides of his visit to Sikkim in 1958.

Darjeeling: In December, 1960, the President of the Club, Lt.-Gen. Sir Harold Williams, visited Darjeeling. A dinner was held on December 15 at which the funds in the Sherpa Trust Fund were handed over to the Sherpa Climbers' Association. Previously in the day, Tiger Badges were presented on the occasion of a passing-out parade of the Himalayan Mountaineering Institute.

LIBRARY: As reported in the last *Journal* arrangements have been made for the Club's library to be housed by the Geological Survey of India at their headquarters, 29 Chowringhee Road, Calcutta. An easily accessible area has been made available for the Club's books and journals. All the journals have been catalogued and it is hoped to issue a library list of the journals during the course of the year 1961. Cataloguing of the books is nearly complete. The library was open to members in early February, 1961, and library passes may be obtained from the Hon. Librarian.

EXPEDITIONS, 1959-60: Space precludes more than a brief list of the many expeditions that have taken place. Most of them are more fully reported on in Newsletters or the *Journal*.

1959: French expedition led by M. Jean Franco to Jannu.

British expedition led by Mr. J. H. Emlyn Jones to Ama Dablam.

- Austrian expedition led by Mr. F. Moravec to Dhaulagiri.
 Japanese expedition led by Mr. J. Muraki to Himalchuli.
 Ladies' expedition to Cho Oyu led by Madame Claude Kogan.
 The ascent of Nanda Kot by the Indian Naval party led by Lt. M. S. Kohli.
 Gunner's expedition led by Capt. Jagjit Singh to Bandrapunch.
 Italian ascent of Kanjut Sar led by Signor Guido Monzino.
 British expedition to the Batura Glacier.
 Swiss expedition to Disteghil Sar led by M. Raymond Lambert.
 Indian Air Force team's ascent of Chowkhamba led by Air Commodore S. N. Goyal.
 Japanese Kyoto expedition to Dhaulagiri II.
 Japanese expedition led by Mr. Hidaki Kato to Gaurishankar.
- 1960: Indian Mount Everest expedition led by Brigadier Gyan Singh.
 Dr. Max Eiselin's Swiss expedition to Dhaulagiri.
 Ascent of Annapurna II by Col. J. O. M. Roberts' British Services expedition.
 University of Kyoto's expedition to Api, leader Mr. Y. Ikeda.
 Ascent of Himalchuli by Mr. J. Yamado's Keio University expedition.
 P. T. Wallace's climb of Ganesh Himal.
 French expedition to Chobutse led by Mr. Robert Sandoz.
 The Himalayan Scientific and Mountaineering expedition to Nepal led by Sir Edmund Hillary.
 Yugoslav ascent of Trisul II and III.
 Mr. Gurdial Singh's attempt on Devistan I.
 Japanese Ladies' expedition in the Punjab Himalayas.
 Calcutta University's expedition to Gangstang.
 The ascent of Nandaghunti by a six-member team from Calcutta.
 Attempt on K2 by an American-German expedition led by Major William Hackett.
 Dr. George Bell's American-Pakistani ascent of Masherbrum.

The Austrian ascent of Disteghil Sar led by Mr. Wolfgang Stefan.
British-American ascent of Trivor.

HIMALAYAN JOURNAL, VOL. XXIII : All papers intended for publication should be forwarded to the Hon. Editor, c/o The Himalayan Club, Post Box No. 9049, Calcutta 16. It is requested that articles should be typewritten, and preferably accompanied by sketch maps; these should be clearly drawn in Indian ink with references given, if possible, to the existing Survey sheets. Photographs should be clear, with definition as sharp as possible; they should be at least half-plate size printed on glossy paper. The Editor will be glad to receive articles of general Himalayan interest and also on subjects other than climbing.

JOURNAL BACK NUMBERS: The only volumes now available for sale are Vols. XVII, XIX, XX and XXI which are priced at Rs.10/- per copy, post free, for members and applies to one copy per member. In some cases additional copies can be made available at Rs.14/- per copy, post free.

DESPATCH OF THE JOURNAL: Responsibility for non-delivery of the *Journal* cannot be accepted if members do not notify their change of address. Considerable trouble is caused in re-addressing *Journals* returned, and duplicate copies cannot be sent except on payment.

CHANGE OF ADDRESS: Members are requested to notify the Hon. Secretary promptly of any change of address. If this *Journal* has not been correctly addressed, will you please advise the Hon. Secretary immediately of the amendments or alterations.

TIGER BADGES: The following Tiger Badges have been awarded and presented to the recipients:

Sardar Wangdi, for Jannu, 1959, presented on April 23, 1961.

Da Norbu H. C. No. 161, for Jannu, 1959, presented on January 15, 1961.

Sonam Girimey, for Everest, 1960, presented on December 15, 1960.

Ang Norbu, for Everest, 1960, presented on March 27, 1961.

Da Norbu H. C. No. 193, for Everest, 1960, presented on December 15, 1960.

Pemba Sundar H. C. No. 182, for Everest, 1960, presented on March 29, 1961.

SHERPA TRUST FUND: On December 14, 1960, the Trustees of the Sherpa Trust Fund had their final meeting before handing over the fund to the Sherpa Climbers' Association.

At the Himalayan Club Dinner held in Darjeeling on December 15, the President of the Club, Lt.-Gen. Sir Harold Williams, had the pleasure of presenting a cheque for Rs.13,704/- to Sri Tenzing Norgay, G.M., Chairman of the new Board of Trustees set up by the Sherpa Climbers' Association to administer the fund in future.

The new Trustees are:—

Sri Tenzing Norgay, G.M.
E. D. Avari, Esq.
Brig. Gyan Singh
M. J. Cheney, Esq.

LONDON REUNION: A very enjoyable reunion of Club Members was held in London on Friday, March 10, 1961, at the Oriental Club. This was the first occasion of this sort since before the war, and was inspired and organized by T. H. Braham and V. S. Risoe.

More than 100 members and guests were present including two Founder Members (Mr. Arthur Moore and Mr. E. O. Shebbeare), three past Presidents and other past members of the Club Committee, and two original members of the Mountain Club of India.

Memories of the Himalayas were revived by the showing of two short films of the Darjeeling Himalaya Railway and of the Himalayan Mountaineering Institute. The success of the meeting can be gauged by the unanimous view that the reunion should be held again in the not too distant future.

LOST MEMBERS: The Club has lost contact with the following Life Members, covers forwarded to their last known address having been returned undelivered. Any information as to their present whereabouts will be gratefully received by the Hon. Secretary:—

B. Amsden
A. A. Bertram
Brig.-Gen. Sir George Cockerill, Kt.,
C.B. (F.)
Lt.-Col. W. F. Clive
Col. G. Davidson
E. H. Ford
Capt. G. G. Funnell, R.E.

Lt.-Col. E. Huersta
I. L. Hall
J. Kelly
C. H. Pitt
Mrs. P. F. Scott
F/Lt. W. M. Starr
Dr. H. de Terra
T. Weir

JOURNALS RECEIVED: We gratefully acknowledge receipt during the year of the following journals and publications in exchange of our *Journal*:

The Alpine Journal.
The Geographical Journal.
Journal of the Royal Central Asian Society.
The British Ski Year Book.
Yorkshire Ramblers Club Journal.
The Rucksack Club Journal.
Cambridge Mountaineering.
The Scottish Mountaineering Club Journal.
Mountaincraft.
The American Alpine Journal.
The New Zealand Alpine Journal.
The Journal of the Mountain Club of South Africa.
Appalachian Club Bulletins.
La Montagne et Alpinisme.
Jahrbuch des Deutschen Alpenvereins.
Journal of the Swiss Foundation for Alpine Research.
Japanese Alpine Club Journal.
Journal of the United Services Institution, India.
The Italian Alpine Club.
The Norwegian Climbing Club (Norsk Tindeklub).