of Logan's ice blanket, almost 200 square miles in area, the advanced base camp site being the last rock outcrop on the route to the summit.

Mr. MacCarthy is under no delusions as to the serious character of the expedition. He sums up as follows:

'On account of uncertain weather and incomplete data concerning several stretches of the 18-mile traverse of the ice-cap to the summit, there seem to be four possibilities as to the outcome of the venture:

'(1) That good weather and good snow and ice conditions will permit the summit to be attained in orderly fashion and a return to be made promptly to the base camp. Time and provisions would then be available for an exploration of the Logan Glacier to its source or where it flows east towards the Kuskawalsh.

'(2) That the summit will be reached only after the greatest difficulty and labour on account of heavy going and bad weather, with no time left for further work.

'(3) That the difficulties and dangers encountered will prove too great for the party to surmount or an impasse will be encountered at the King Col, thus making necessary the choice of an entirely different route and so turning this year's expedition into one of reconnaissance.

'(4) That bad weather and low temperature may keep the party stormbound at the advanced base camp until supplies and endurance are exhausted, which is highly improbable.'

We are also indebted to Mr. Howard Palmer, V.P. of the American Alpine Club, for various details.

A Visit to the Glaciers of Ruwenzori.

By CAPT. H. B. THOMAS,

Uganda Protectorate Government Service.

[This journey follows the line of approach of the Duke of the Abruzzi's expedition described in *Geographical Journal*, xxix., February 1907, which contains some superb photographs by Signor Cav. Sella, and the best map of the group.

A summary of this journey, including some photographs and the map, is contained in a paper by Mr. Freshfield, 'A.J.' xxiii., 386 *seq.*

A.J. xxiii. and xxiv. contain many useful notes on the Group.

The following may also be consulted :

'To the Mountains of the Moon,' by J. E. S. Moore (1901).

A.J. xxiii., 45 *seq.*, for Mr. Freshfield's paper on his own visit with Mr. Mumm to the Group.

'Ruwenzori'—an account of the expedition of the Duke of the Abruzzi (1908) by Sir F. de Filippi, with magnificent Sella illustrations and a map.

'Ruwenzori to Congo,' by A. F. R. Wollaston (1908).

The approach to the Group from Entebbe on Lake Victoria is now much shortened by a motor road to Fort Portal, the journey being made in two days.]

LITTLE original work has been done in the Ruwenzori Range since, in 1906, the Duke of Abruzzi solved the last of its major problems. The long journey[1] from the East Coast of Africa has discouraged climbers with experience and leisure sufficient to complete his investigations ; but worthy climbs and valuable research are still waiting to be made.

From time to time, however, enterprising spirits, mostly officers of the Uganda Protectorate Government or missionaries stationed in the surrounding district, have found their way up the Mobuku Valley ; but for the most part little more was attempted than a hurried visit to the terminal ice-fall of the Moore Glacier, at which point the valley is completely blocked by Mt. Baker.

I had been stationed in the neighbourhood, and with a brother officer, Mr. A. G. Ellis, had often discussed the apparent failure of nearly all these recent climbers to obtain a near view of the hidden central peaks. Just before the rainy season started an opportunity of obtaining a few days' leave arose, and we decided to make an attempt. Our expedition had no scientific purpose. Our very limited ambition was to photograph at close quarters the peaks of Mt. Stanley.

On the third day after leaving Fort Portal, the headquarters of the Government in the Toro District of Uganda, we reached the Mobuku River, and, being carried across on the

[1] The journey from Mombasa, the seaport of East Africa, can now be made by rail through Nairobi, the capital of Kenya Colony, to Kisumu, the port on Lake Victoria, thence by steamer to Entebbe, the capital of Uganda, and by motor to Fort Portal, in under a week altogether.

shoulders of willing natives, pitched our tent in the village of Ibanda. This was to be the base camp for the expedition, and we spent a busy day dealing with the numerous preparations which were essential to the success of our undertaking.

First of all we replaced our carriers, weak and weedy dwellers of the plains, by men of the local Bakonjo tribe. These hardy hill people were to be a constant source of amazement to us. Their agility and cheerfulness never failed them. Blankets were distributed. At least a week's supply of millet-flour for their use had to be provided.

Our own loads were carefully scrutinised for every possible reduction in weight. Finally, we interviewed our future guide, a most disreputable-looking old man, only distinguishable from his almost naked companions by the possession of one grimy cotton garment. He had been a porter with the Duke of Abruzzi's expedition, and proved himself invaluable. His sense of direction in trackless jungle or in a dense mist was unerring, and none so cunning as he at lighting a fire in the eternal dampness of the upper valleys.

Ibanda, with an elevation of some 4500 feet, stands at the point at which the Mobuku River ends its mountain course and reaches the level of the plain. On every side it is surrounded by spurs of the mountain. Far up the valley, framed by the frowning Portal Peaks, we caught a fleeting vision of the glistening snows on Mt. Speke.

On the first morning of a journey there is often some disorganisation, but at the fall-in before sunrise, in the glorious light of a moon just past the full, every one was in his place, eager to start. We reviewed our party. All personal attendants had been dispensed with other than a cook and his assistant and a Nubian orderly—a faithful retainer who had accompanied me some years previously on a climb to the Jackson Summit of Mount Elgon. Some 30 Bakonjo had been engaged to carry our 24 loads, half of which consisted of tentage for ourselves and servants and of porters' rations.

It may be of interest to some who have had recent experience of the modern Alpine guide to know the terms upon which these men were engaged. We were absent for less than a week, and paid the porters at the rate of about one shilling a day each, together with rations of native flour and a trade blanket purchasable locally for about five shillings—the blankets are more in the nature of a customary *backsheesh* than a protection from cold, as the porters are quite satisfied if they are distributed at the end of the journey. These porters, however, carry only to about 12,500 feet. Beyond this it

would be necessary to supply them with boots and warm clothing, and commissariat becomes increasingly difficult. The head guide who took us to the foot of the glaciers received twenty shillings for the trip, and was well content.

We soon left the riverine plain, and the track became a switch-back among the spurs on the S. side of the valley. By 9 o'clock we had reached the last native settlements. Here was the home of many of our porters. A party of girls from the surrounding villages, carrying baskets of cooked food, met us; a halt was called, and each man enjoyed a hearty meal. There was much shouting, a last exchange of jests with remaining friends, and once more we were off.

The limit of cultivation which we were now leaving presses right up to the virgin forest from which it has only lately been won. Through this we picked our way. There was no sign of man except for an occasional rough ladder tied to a tree, showing where the natives who hunt through the forest had climbed in their search for wild honey. Everywhere were tracks of elephants. Even in the forest the noonday sun was quite hot, and when we reached the Mahoma River, a tributary of the Mobuku, all were ready for a rest. The Bakonjo immediately began to smoke. This is carried out on a communal basis: a green banana stem some three feet long is produced, into one end of this is inserted a small leaf rolled to the shape of a cone and filled with tobacco; when lighted, the stem is passed from mouth to mouth, each man taking a few deep gulps. The effect appeared to be most invigorating; each man seized his load with renewed zest, and we commenced our climb out of the Mahoma Valley.

The ascent becomes steeper and steeper. The forest gives way to bracken, until one emerges on to a veritable knife-edge but a few feet wide. This is the crest of the ancient moraine left between the Mahoma and the Mobuku torrents. Hundreds of feet sheer below us on either side we could hear each of the streams roaring in its rocky bed. Bamboos begin to appear for the first time. The way follows this crest for some distance to our night's camping-place at Nyamitaba. This is merely a small clearing on the ridge, just large enough for a tent; an overhanging boulder provides a kitchen. The bamboo forest falls away on every side, and through it to the N., across the Mobuku Valley, we had glimpses of the Portal Peaks, which seemed almost to overshadow us, and of the cascades which mark the junction of the Bukuju River with the Mobuku.

It was a delighful evening. Every one was tired, but we

were all satisfied with our progress, for we had climbed in all well over 4000 ft. during the day. It was the 5th of March. Although the rains were due at any time, the weather could hardly have looked more promising. We were full of hope for the success of our expedition.

Full moon in the early evening has many fascinations, and for this reason we were regretting that we could not have started on our journey a week earlier. But when next morning we turned out more than an hour before the sudden tropical daybreak we realised the practical advantages of an early morning moon; by its light it was a simple matter to break camp; everything was packed and we were on our way before the first rays of the sun filtered through the tangled forest.

The track which we were to follow from here onward had not been traversed for nearly a year. It was therefore arranged that E. should keep with the porters while I pushed ahead with the guide and a few men with slashers to open up a path. Our main concern was to cut an overhead clearance for the porters' loads, for, contrary to the usual practice of hill peoples of carrying on the back with the aid of a head-strap, our Bakonjo, even in the most precipitous places, continued to carry on the head.

Imperceptibly, for the growing density of the bamboos shut in the view on every side, we were descending again to the Mobuku River, which we now crossed without difficulty on stepping-stones. For some distance its course is comparatively level, for we had reached the first of the series of water-logged terraces which are such an outstanding feature of the upper Mobuku Valley. The going was appalling. Moss everywhere covered a sea of liquid mud, through which we squelched our way ankle-deep; any attempt to keep dry-footed was useless. Plunging blindly forward, we found ourselves confronted with a bare rock cliff, over which tumbled the Mobuku Stream, representing in all a drop of nearly 1000 ft.

This is the Kichuchu; a less inviting place for a camp it would be hard to picture. Cold and damp, a fire was our first thought, for E. with the porters was probably an hour behind. To my dismay I had no matches. But, to the native of Africa, given conditions with which he is familiar, difficulties only arise to be surmounted. Our guide produced from a skin bag a set of fire-sticks and a scrap of bark-cloth tinder, and set to work with much grunting and a display of energy which must for him have made a fire almost unnecessary. In two minutes there was a tiny skein of smoke; his companions,

squatting round, blew gently and soon ignited some dry grass; five minutes later a roaring fire was crackling.

The day promised fair, and when at length the porters arrived it was decided to leave such an unattractive spot and push on one more stage. On looking round for the way, however, it seemed for the moment as though we were entrapped. Only at a second glance does one discern a diagonal ledge following the N. margin of the cliff. Up this we clambered hand over hand, at places having to make use of an improvised ladder of poles. The porters performed acrobatic miracles, for to carry a box weighing 50 lbs. on one's head up a nearly perpendicular rock-ledge is hardly less. Eventually this ledge reaches the rocky course of a small torrent, up which we scrambled to emerge on to a second terrace.

It is a noticeable result of the suddenness with which the changes of elevation during the ascent take place that the various zones of vegetation are so clearly marked as to make an instant impression upon the traveller. The region of bamboos had ceased. This was another world.

On every side we were hemmed in by a dense forest of tree heaths. Intertwined and contorted, they form overhead a screen through which the light filters with difficulty. Thick layers of moss envelop every trunk, every branch, almost obliterating the semblance of a tree. Underfoot is an age-long deposit of fallen trunks, treacherously hidden by the same covering of moss. No breath of wind stirs, no sound of life is heard, an eerie silence broods. This has been aptly named the Dead Forest. Slowly and cautiously we picked our way until the roar of a cascade told us that we had again reached the Mobuku Stream at the foot of another escarpment. This represents a climb of nearly another 1000 ft., but being formed of tumbled rocks held in place by ample vegetation it was negotiated with comparative ease.

It was a relief to rise above this dripping, dreary forest. From the top of this scarp at an altitude of over 11,000 ft. are some of the finest prospects obtainable in the whole valley. Below, the Mobuku Valley stretches away into the distance, its windings and terraces all distinguishable in the dense forest which creeps far up its steepest slopes. It is lost to sight behind the spurs which enclose the Ibanda flats, but, far beyond, everything merges into a golden haze through which glimmers one speck of silver: it is the sun glinting on the waters of Lake George.

Looking up the valley towards the heart of the mountain the view is dominated by the snow-covered summit of

Mt. Baker, framed between gaunt and precipitous cliffs. It is remarkable that this is the first view of the snow peaks that can be obtained after leaving Ibanda. So intricate and misleading is the topography of the upper valleys that more than one early explorer of the range was convinced that this was the same mountain as is visible from Ibanda. That is, of course, Mt. Speke, which is, in fact, completely isolated, and invisible from the upper reaches of the Mobuku.

The terrace of Buamba, the third of the series of plateaux, had now been reached. The contrast with the forest below was again startling. The ground is thickly carpeted with moss, from which peer familiar violets, forget-me-nots, and thistles; on every side is a profusion of everlasting flowers massed in bushes, of giant lobelias and senecios; the Mobuku, a limpid Alpine stream, winds peacefully by. In the brilliant sunshine it seemed a fairy garden.

Fifteen minutes' brisk walk brings one to the end of this level valley bottom. The towering cliffs close in to form a gorge. A small waterfall precipitates itself from a shelf on the S. side, and close at its foot, sheltered somewhat by the overhanging cliffs, our camp was pitched.

The porters straggled in as the afternoon wore on. Every one was tired out, but a square meal and a blazing fire are good restoratives. We ourselves were in high spirits, as we had in the day completed what might well be taken as a two days' journey; and the Bakonjo, who realised that the hardest part of their share of the expedition had been accomplished, were soon chattering cheerfully round the camp fires as they stirred their pots of unappetising-looking brown gruel.

Rising next morning in the chilly gloom before sunrise was frankly an unattractive ordeal. We breakfasted before a roaring fire, holding to the theory that every good African traveller should train himself to enjoy a hearty meal before leaving camp, even if a start should be made at 3 A.M. Leaving our men to pack, we set out with the dawn, accompanied by our guide and three men to carry lunch, wraps, cameras, and climbing gear. By a toilsome climb, winding among the broken rocks, one gains a ledge on the S. side of the valley, and in little more than an hour we had reached Bujongolo, whither our camp was to follow us. Beyond this no tolerable shelter for a large number of porters can be found. We spent a few minutes examining what was to form the advance depôt for our attempts to reach the glaciers. It is merely a widening of the ledge which we had been following. Hundreds of feet below runs the Mobuku Stream. It seems but a stone's

throw across the valley, which is here almost a canyon, its opposite wall of bare rock so steep as to deny a hold even to the hardy vegetation of these regions. The arching cliff far overhead affords some sort of shelter for a tent; beneath a huge boulder is a cavern which we dedicated to the comfort of our porters.

When we left Bujongolo the ledge became more and more restricted, and at places a false footing would mean a drop which could hardly but be fatal. At length the way runs down to the level of the stream, which here takes a sharp turn from the N.

There directly in front, and less than a mile away, glistened the Moore or Mobuku Glacier. The sedgy valley bottom, which was still crisp with frost, is terminated by the frontal moraine marking the comparatively recent retreat of the glacier. Towards this we made our way with little difficulty, halting at length under the shelter of a large rock. Our guide was armed with one of the ingenious Bakonjo torches by means of which it is possible to carry a smouldering fire all day. A fragment of bark-cloth tinder is tightly wrapped in straw, and the whole covered with dried banana fibre. It hung from his wrist like a policeman's baton. Collecting the dried stalks of some stunted senecios, he had soon kindled a fire. Round its comforting blaze we crowded, and toasted some bread and bacon over the ashes.

The final scramble over the tumbled séracs leads by way of a chimney closed at the top by a huge boulder. Here it was necessary to fix a rope as an aid. At last we stood at the snout of the glacier. The elevation at this point is some 13,700 ft., and is the lowest permanent ice on the range.

The outlook was grim enough, despite the pale sunlight which filtered through the light mist overhead. The valley had again narrowed to a gorge, enclosed by towering cliffs, its end entirely blocked by the ice-wall which rose perpendicularly above us. This is fractured and pitted at its base, as intermittent melting has taken place; and from it issues the runlet of water which becomes the Mobuku River.

One of the minor objectives which we had set before ourselves had been to reach the top of this ice-fall. It was here that the extraordinarily spell of good weather with which we had been favoured did us a disservice. The only egress from the end of the valley is by way of a fault close to the E. side of the glacier. This is filled with debris held in place by morainal mud. With the sun overhead the temperature had risen above freezing-point, and as we worked our way laboriously

upward it became clear that we were running considerable risks. In his attempts to get a foothold, E., who was ahead, was dislodging rocks from the thawing, treacherous mud, which hurtled past me below. We were now on a level with the top of the glacier wall, and, after taking some photographs, concluded that it would be useless to go on. A hard frost would have been our salvation.

We retraced our steps with difficulty, but reached the foot eventually without mishap. Twenty minutes later we were back at our fireplace, and, after warming ourselves, pushed back to Bujongolo, where we found camp set. Rain and mist came down soon after our return.

Bujongolo, despite its elevation of some 12,500 ft., affords a certain amount of shelter, and the temperature seldom falls below freezing-point. We noted little real effect from the altitude, and our vitality and breathing seemed normal. The Bakonjo porters had made themselves comfortable in the cavern with a huge fire, and seldom emerged to the outer world. From arrival to departure they appeared to be engaged in preparing or eating one continuous meal.

The night passed uneventfully away, and we were about betimes next morning. At daybreak we were ready to start on what was to be our great task. For a few moments the sun, rising out of the far E. plain, crept up the valley, illuminating the cliffs with a marvellous orange light, but it was soon lost in the lowering mist just above our head. Mt. Baker, at the head of the valley, was invisible.

Our prospects could hardly have been less promising when we left camp. Following the same ledge as on the previous day for some distance, we came to a subsidiary valley which drains into the S. side of the Mobuku. This leads in a S.W. direction towards the pass, known as Freshfield's Col, connecting Mt. Baker and Mt. Luigi di Savoia.

We were soon enveloped in cloud. Fading into dimness on every side was a monotonous and featureless array of broken rocks, of lobelias, senecios, and helichrysum. There was, of course, no path. Here again our old guide showed his worth. Picking his way without the least indecision, in less than two hours he halted us at a huge rock. Plant life had noticeably become more stunted, and we realised that we had reached the limit of vegetation fit for fuel. We had completely lost our sense of direction. A dense white pall shut us in, limiting our view to a few yards.

We lit a fire and prepared for an indefinite wait. We could hardly be optimistic, for, judging from previously recorded

Photo: H. B. Thomas.

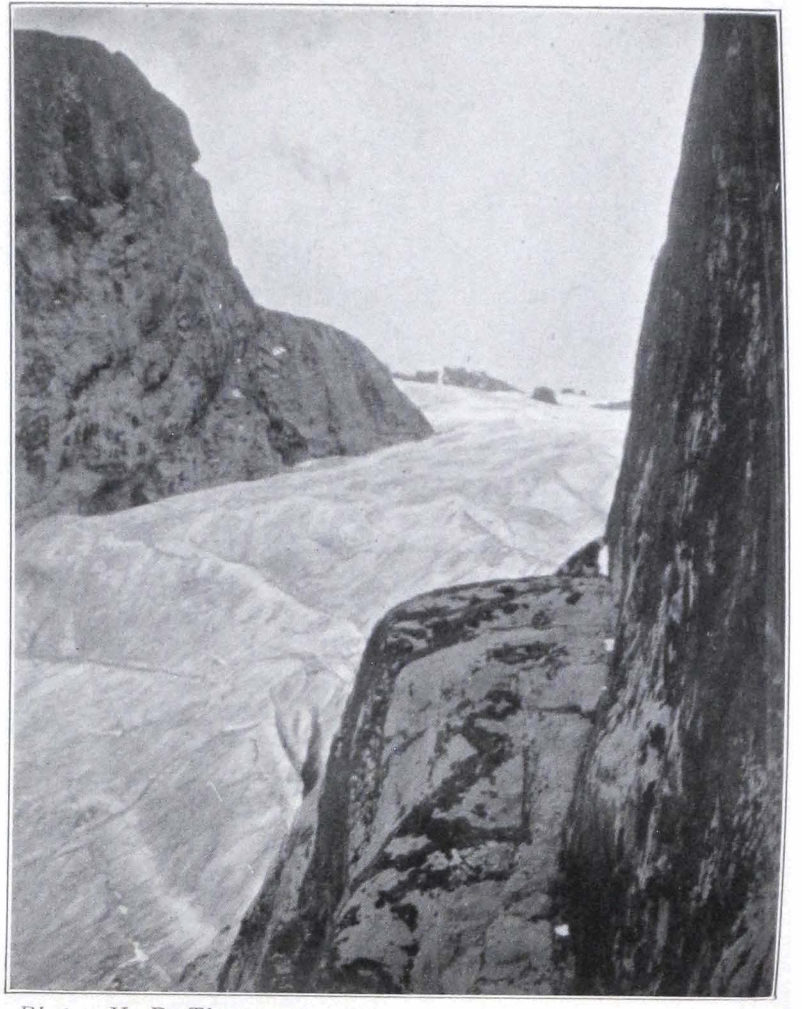
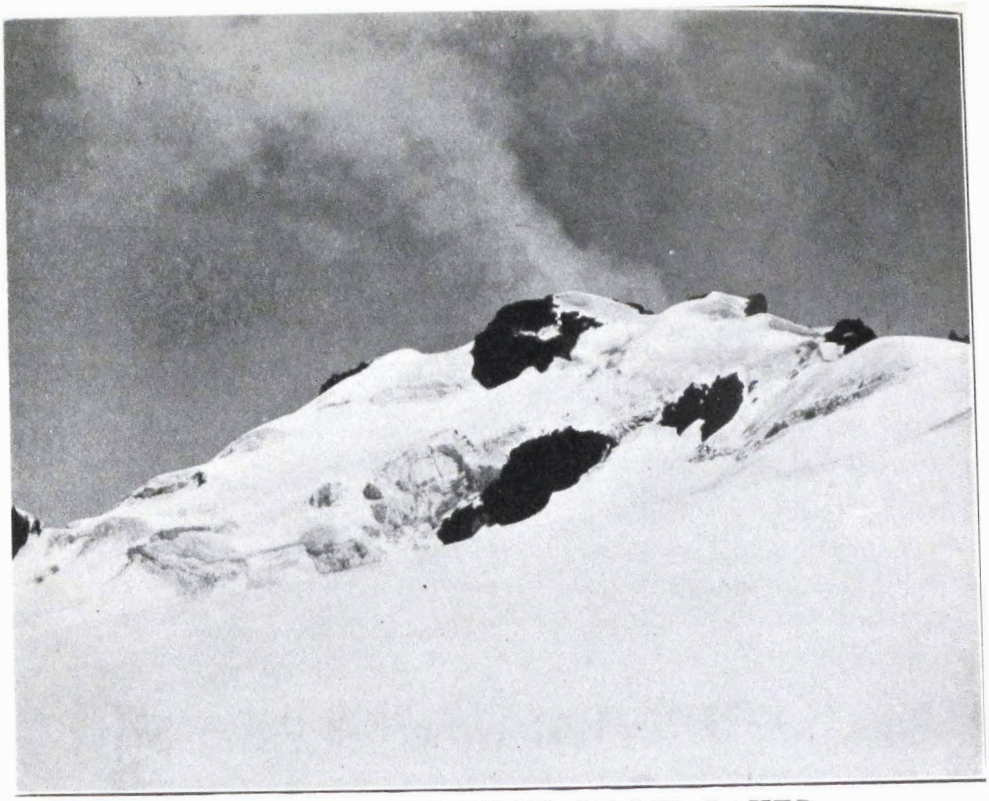


Photo: H. B. Thomas.



THE EDWARD PEAK OF MT. BAKER.

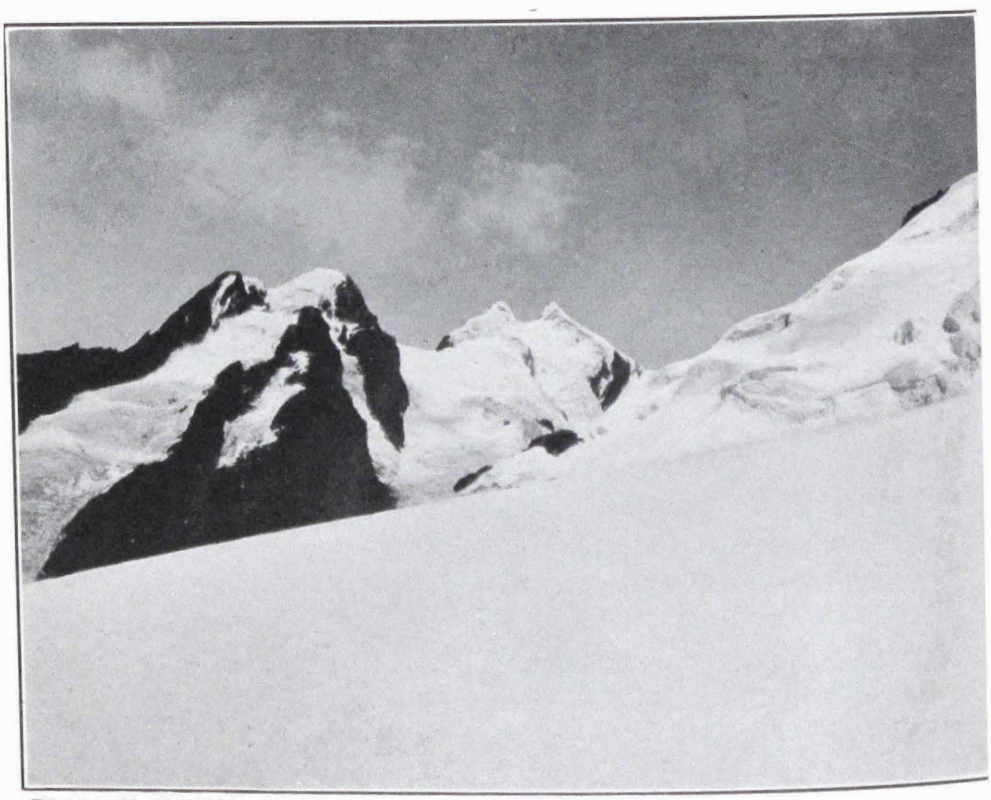


Photo: H. B. Thomas.

MT. STANLEY
from the S. Shoulder of Mt. Baker.
L. to R.: Elena, Savoia, Alexandra and Margherita Peaks.

experiences, these atmospheric conditions might last for any time up to a week. Then it was that the miraculous began. Above our heads a patch of blue sky appeared for a moment and was lost again in the swirling mists. Then more blue sky. Dark mountain masses were dimly distinguishable, now here, now there. A little later and the mists had disappeared completely at our feet, and we were looking down on the Mobuku Valley almost as a bird's-eye view. We identified a speck in the distance as being a tiny lake in the bamboo forest close to our camp of some days before at Nyamitaba.

Within half an hour the sky had completely cleared and a pleasant sun was shining. We saw that we were just below the crest of Freshfield's Col, over which the breeze was chasing the last wisps of cloud. The glittering snow-field of the King Edward Glacier crowned by the King Edward Peak of Mt. Baker looked down upon us.

Hurriedly we shouldered our equipment and made our way across the wide sweep of tumbled rocks which separated us from the foot of the King Edward Glacier. This is of a different character from the seeming river of ice which forms the outfall of the Mobuku Glacier. The whole of the mountain appears to be covered with a snow-cap through which a few bare black rocks are projected. The guides left us at the foot, as they are of little assistance upon the snow. We roped ourselves together, grasped our ice-axes, and commenced the ascent.

The ice is here trapped by a rim of rock, and by thus following the margin of the glacier we made considerable upward progress. At length we struck off in a diagonal direction across the open névé. An unbroken line of snow stood out against the sky above us and marked our goal. As we toiled steadily upwards across the intervening snow-field the effects of the intense sunlight were more and more noticeable. The surface became soft and moist. There was no longer any need to cut or kick a foothold, but our confidence in its stability was correspondingly reduced and we proceeded with more caution.

Suddenly, one step, as it were, threw open a prospect the immensity and grandeur of which took from us what little breath remained. A moment later we shortened the rope and stood together on the watershed of the range.

Other mountain masses afford panoramas of comparable wonder, but such is the persistence of bad weather in this the most secretive of Africa's mountains that to few has come the good fortune that had favoured us. Perhaps on not half a

dozen days in any year are all the highest peaks thus clear of cloud at midday.

Three-quarters of our horizon was bounded by snow-capped mountains. Right before us lay Mt. Stanley, the twin peaks Margherita and Alexandra completely snow-covered and standing out with amazing definition against a dark-blue sky. Mt. Luigi di Savoia like a giant rampart blocked the S. sky, every summit, every crevasse, clearly outlined. These two massifs are separated by the Butagu Valley, which faded away into the dense forests of the Belgian Congo, its lower end overhung with billowy clouds. Due N. of us, only a few hundred yards away, stood the Edward Peak, joined by a long saddle of snow to the gaunt rocky knob upon which Dr. Wollaston was beset by mist, and thus robbed of the opportunity and honour of being the first to describe the whole of the snow peaks.

When we had studied the outlook for some time we bethought ourselves of our more immediate surroundings. Ten yards beyond us the snow-line dropped out of sight, and we realised that within a stone's throw was the precipitous W. face of Mt. Baker, a sheer drop of 2000 ft. to the valley dividing us from Mt. Stanley. In the bitter wind we changed a roll of films with fumbling fingers. We had reached an elevation of not less than 15,500 ft., and with the summit of Edward Peak within our grasp were sorely tempted to proceed. Flecks of mist, however, were scurrying overhead which might envelop us with the same suddenness with which the fog had disappeared earlier in the morning. But that which most disquieted us was the softening of the snow in the intense sunlight. Its effects on the steeper slopes which lay before us we were quite unable to foretell. Reluctantly we concluded that it would be wiser to turn back. Far more had been accomplished than we had dared to hope in our most optimistic moods. We stood once more in silent contemplation of the scene around us, and it cannot be a matter of surprise if, in such surroundings, there flashes through the mind a sense of puniness and isolation, and of the futility of so much that lies below.

A few moments later we were glissading down the glacier. Protruding rocks were quite warm, and their radiation had melted the ice immediately surrounding them. At the lower limit of the glacier the change wrought by a few hours' sun was even more startling. From under the ice water was pouring in innumerable streams, and we felt that we had made a right decision in distrusting the stability of ice subject to such

intense sunlight. It was not until later that we learned that the glaciers of Ruwenzori, being subject only to a daily rather than a seasonal thaw, are exceptionally stable. Half an hour later we rejoined our guides around their fire, and warmed a most welcome meal.

On our descent towards Bujongolo we made a detour on to the crest of Freshfield's Col, whence once more we caught a fleeting glance of Mt. Stanley. As we arrived in camp the mist closed in and rain began to fall. Only then did we realise that we had physically reached the limits of endurance. Too exhausted even to change our clothes and with ferocious headaches, we each swallowed a double dose of aspirin, rolled ourselves in blankets, and soon fell asleep.

Little remains to be said. Our porters were all anxiety to return, and every load had left camp by dawn next morning. Nothing could stop them. All our upward camping-places were passed and our tent was finally pitched in the forest by the Mahoma River. Even then some of the Bakonjo went on to their homes, which were now little more than an hour's walk distant. That evening the weather began to show signs of breaking up, and it is some measure of our good fortune that within a week one of the heaviest rainy seasons on record had definitely set in. Our undertaking had undoubtedly been put through in the nick of time.

Early next morning we were again at Ibanda, and prepared once more to resume the trivial round and common task which occupy so large a proportion of the life of the white man in Central Africa.

Mountains and the Public.

By A. D. GODLEY.

(Read before the Alpine Club, November 4, 1924.)

I DO not propose to begin by apologising for this paper. Any necessary apologies should be offered by your secretary; it is for him to explain why an address unadorned by any of the usual pictorial adjuncts is thus wantonly inflicted on you. When a wild animal, a lion or (let us say) a boar, escapes from its cage and causes inconvenience to the public, you blame not the beast but the keeper who has let it loose. Mr. Spencer has let me loose; blame him. Having now located responsibility where it properly resides, I pass to