

at the Engstlen Hotel from Herr Immer, a warm bath and the loan of dry clothes, are comforts not easily forgotten.

It may be remarked that the Wasenjoch, in addition to affording means of access from the Meienthal to the Engstlen Alp, may be used as an interesting alternative route to the Susten Pass in order to reach Gadmen ; or, by combining it with the Wendenjoch, Engelberg may be easily reached.

## THE NEW ZEALAND ALPS.

BY O. J. BAINBRIDGE.

### PART I.

#### *The Hermitage.—Mt. Cook.*

**I**N spite of the work of the New Zealand mountaineers, Messrs. Harper, Mannering, and Fyfe, and the expeditions of the Rev. W. S. Green and Mr. FitzGerald ; in spite of the foundation of a New Zealand Alpine Club, and the facilities for mountaineering supplied by the Government, the popularisation of the New Zealand Alps has so far proceeded comparatively slowly.

Tourists there are in plenty : some come by one coach and go by the next, content with a view of Mt. Sefton and Mt. Cook ; others allow themselves a week to see the ice of the Tasman Glacier or to explore the moraine of the Mueller ; but those who would benefit from a close inspection of the mountains, an inspection which necessitates all the impedimenta of mountain expeditions, must be content to wait patiently and watch. A week or ten days at the Hermitage is useless for the mountaineer. But before discussing the difficulties he must face it would be well to enumerate the excursions from the Hermitage that are open to those who are not at home with the ice-axe and the rope.

An hour's walk to Kea Point will disclose the moraines of the Mueller and Hooker Glaciers. Mt. Sefton is too near to allow a proper appreciation of the steepness and extent of its glaciers, but Mt. Cook shows well from here. Neither the clear ice of the Hooker nor the Mueller Glacier can be seen, the outlook being one of extreme desolation. Any grandeur it has is derived from this characteristic ; probably nowhere in the world can such a quantity of moraine and debris be seen in a similarly enclosed area.

Those who are energetic can sample the moraine of the Mueller Glacier by a short though steep descent from Kea

Point, and then a long weary trudge will reward the tourist with a view of the clear ice of one of the glaciers which descend from Mt. Sefton. Some interesting work can be done among the seracs, but no particularly extensive view can be seen from this point of the peaks which lie at the head of the Mueller Glacier. Mount Sealy stands out prominently at the head of the Sealy Range, but the best practicable point for seeing this peak is from the Tasman Glacier. The ice of the Hooker Glacier can be reached more easily, as no weary trudge over moraine is necessary. The river is crossed by a suspension bridge. Thence a path skirts the lateral moraine for 2 to 3½ hrs., after which another hour is required to reach the ice.

But by far the best excursion from the Hermitage (excepting the two days' journey to the Maltebrun Hut on the Tasman Glacier) is Mt. Olivier, the 'Gornergrat' of the district. This is one of the lower eminences on the Sealy Range, and requires about 4 hrs. of rough walking to reach it. For twenty minutes the Kea Point path is followed; then a steep gully is ascended to the left by a path which, though rough, continues until a lagoon 2,000 ft. above provides a suitable resting-place. If fine, an excellent reflection of Mt. Cook can be seen. From here the tourist makes for the nearest point on the range, and thence to Mt. Olivier, where his exertions will be rewarded by a splendid alpine view. Sefton and Cook stand prominently out, while a glimpse can be got of the peaks at the head of the Tasman Valley. The Nun's Veil and Rotten Tommy both look well beyond the Cook Range, while the whole extent of the clear ice of the Mueller Glacier with the peaks of the Sefton Range and the attractive-looking rock peaks at the head of the glacier can be seen to advantage.

The finest expedition from the Hermitage yet remains to be recorded. And that is to the hut on the Tasman Glacier named the Maltebrun from the range which it guards. The Ball Hut (fourteen miles) is a convenient resting-place, but it is a great mistake for the tourist to go no further, for this hut is nothing more than a half-way house and commands no view. Many do this, however, and are content with a walk on the glacier before returning to the Hermitage. Horses can be taken to the Ball Hut, and on the second day, with the exception of some interruptions in the way of moraines, the tourist has a walk on clear ice for many miles. Four to 7 hrs. walking will bring him to the Maltebrun Hut, the final scramble from the glacier proving rather hard at the

end of the day. The view is a thoroughly alpine one, and as the Hermitage can be reached again in one day by energetic walkers, it is quite worth while resting a day at the hut, even if the Hochstetter Dome (the Breithorn of the district) remains unascended.

These excursions should prove sufficient for the casual visitor, otherwise the lower hills on the Cook Range or Mt. Sebastopol will provide as nice an example of sérac as the most fastidious would wish to sample. But by this time, indeed, it is probable that the tourist will have had enough of 'climbing,' unless, indeed, the mountains he has seen have engendered in him an ambition to take up real mountaineering work: unfortunately this is rarely the case, and it is not until he has encountered some of the difficulties to be found in real climbing that he is struck with the fever. It is a fever then from which he never recovers, but merely a view of the mountains has often a deterrent effect.

When the Burke Pass introduces the great Mackenzie plain, and Sefton and Cook are revealed to the eye, the visitor is struck with amazement that mountains so easily accessible do not draw greater numbers to their midst. Maybe the coach drive is in some way responsible for this, as the road is very rough in parts; yet neither gorge nor precipice nor bush is present to harass the engineer, and when, after leaving Tekapo, the coach turns southward, and, avoiding the network of torrent and shingle which forms the Tasman River, makes a wide détour round Lake Pukaki, the driver's explanation that a bridge over the Tasman appears too expensive or too difficult, suggests that a railway round by Pukaki would solve the difficulty by conveying passengers to the Hermitage from Fairlie at least in one day instead of two. Remembering the immense source of wealth the mountains are to Switzerland and the difficulties the Government has successfully overcome to popularise them, it would seem that New Zealand has a comparatively easy task to perform. There are visitors in thousands every year, and it remains with the Government to make the Mt. Cook district so attractive that none would leave the Island without including the Hermitage in their tour. Mountaineers who affect to despise the bier halle at Zermatt, or even the orchestra in front of the Monte Rosa Hotel, and who long for the isolation which can be enjoyed no more in Switzerland, might possibly change their views after a month or six weeks at the Hermitage: otherwise I must appear in my anxiety for the Government to forget their interests. It would, however, require years of work

before the Mt. Cook district would be in a position comparable with that of any of the districts in Switzerland, and even then there remains the country to the North, at present almost wholly unexplored, and also the region which embraces Mt. Aspiring, to the South. There can be no doubt that the Mt. Cook district is the most important from the climber's point of view, even if it be admitted that first-class mountaineering work can be found elsewhere. So far at least, mountaineers and surveyors have almost entirely centred their energies in the neighbourhood of Mt. Cook, and it is with this district alone that we are at present concerned. W. G. Tennant spent six weeks with me in making observations and ascending peaks as the weather and other conditions permitted, and though the climbing was not all that could be desired, we were at least enabled to make ourselves acquainted with the conditions as they were.

I remember feeling somewhat lost when we drove up to the Hermitage. Instead of meeting with a more or less cheerful welcome, we found it necessary to carry in our own luggage, and were told that there was very little room, but that we might have a room apiece for two days. The Governor's party was at the Hermitage at the time, and the good people of the house were evidently thrown a little out of gear. After a 40-mile drive, however, our reception seemed a little cold, very different from what is accorded at the hotels of Switzerland or the Austrian Tyrol. A little adaptation is required to colonial methods, and things go very well; but there is a good deal that is irritating at first to the English visitor, as service, though paid for, seems grudgingly given. We found the people very nice though, and every encouragement is given to make oneself at home. It was difficult to tear ourselves away at last, as the quiet comfort of the Hermitage was very attractive.

The Hermitage is situated in the shelter of some bush-clad hillocks, which may have been placed by a kindly Providence to hide from the eye the desolate expanse of moraine which covers the lower portions of the Hooker and Mueller Glaciers. From the verandah of the hotel only Mt. Sefton is visible with its precipitous slopes of glacier and rock; but a minute's walk discloses Mt. Cook, and on the night we arrived we were fortunate in seeing a magnificent sunset. This peak, rising nearly 10,000 ft. from the Hooker Glacier on one side and the Tasman on the other, stands almost alone in the district in its marked individuality. So many of the others seem merely molehills rising from the range—almost

unapproachable on account of avalanches and falling stones—for the glaciers rise very steeply almost to the summits, disclosing to the eye the wonderful formation of serac which is one of the peculiarities in New Zealand alpine scenery.

Clark, the guide, was away with Mr. Claude Macdonald, who was making an attempt to climb Mt. Cook; with him was Smith, the porter, and there only remained Hans Fluckinger from Berne, who had received employment from the Tourist Department that year, and had been sent up to the Hermitage to act as 'guide.' I do not think he had ever climbed a mountain, but he possessed a pair of wonderful boots, and altogether seemed to give a tone to the place. This was Mr. Macdonald's second attempt, the former from the Hooker Glacier having been unsuccessful on account of a sudden change in the weather when the party had conquered all difficulties. Two days later a carrier pigeon informed us that the condition of the snow on the arête had prevented the ascent from the Tasman side being made; a previous snowstorm lasting some days was responsible for this.

On the day after our arrival we thought we would begin our training by a walk on the Mueller Glacier. There was no difficulty in following the path to Kea Point, but here we were greeted with such an expanse of moraine that our enthusiasm received a serious check. The Mueller Glacier takes a southerly bend round the Sealy Range, and no clear ice is visible at all, either on the Mueller or the Hooker Glaciers. A short steep scramble brought us to the glacier, but after sampling N.Z. moraine for about an hour we came to the conclusion that no imagination could call this pleasure, and as we did not like to return too early we sat down and rested. For the first time I thought I could understand why New Zealanders had not taken to mountaineering. Mr. Man-nering's words came back to me:—

'Oh, you Swiss mountaineers, with your knapsacks and feather beds. No; this N.Z. work is not like yours.'

Passing over the somewhat doubtful compliment implied in the words 'knapsacks and feather beds,' I am able, after six weeks' experience in this district, fully to endorse the latter part of the sentence. And the difference lies not only in the quantity of moraine to be traversed, the rottenness of the rocks and the inclemency of the weather, but in the lack of mountaineering facilities and the insufficiency of guides and porters. The only Alpine huts in the district are in the Tasman Valley: from the Maltebrun hut the Hochstetter Dome, Mt. Darwin, Mt. Maltebrun and Mt. Green are acces-

sible, but the beautiful Elie de Beaumont presents such a formidable ice-fall from this side that the mountain is quite unapproachable, at least in the latter part of the season.

On the following morning, February 23rd, we started to climb Mt. Olivier. It does not compare with the Gornergrat, as there is no refreshment room at the top; on the other hand, it is a pretty weary grind, and it did not take long to discover we were not quite fit for mountaineering exercise. The little lake half-way was smooth, and the reflection of Mt. Cook was fine, and when once the ridge was reached the whole Sefton Range was displayed in the dazzling light of the mid-day sun. Mt. Sealy does not look well from here, but then the distance away is over three miles. It was easy to understand the mistake Zurbriggen made when he failed to see that the mountain was separated from the range by a glacier; when there is mist round the mountain it is easy to discern that the culminating ridge of rocks on the range is separated from Sealy, but on a bright day it is difficult to see.

As there was no hope of getting Clark's services for some time, we thought that Sealy would be a suitable peak for a guideless climb. On Wednesday the 25th, therefore (Tuesday was wet), we made our way up the hill again, with sleeping-bags and billy and wood. On reaching the ridge (5,700 ft. high) the 'swags' were deposited among some huge boulders, and the Swiss whom we had employed as porter returned. It seemed a novel encamping ground, as we depended entirely for shelter on the huge blocks of rock which rose fantastically around us. But the night was fine, and we enjoyed what one seldom gets among the mountains, the sight of a sunset from an eminent position. It was like encamping on the Gornergrat, with a panorama of mountains all around. There was not a cloud in the sky when we turned in, and it really looked as if the weather could not change. My bed consisted of irregular slabs of rock, and in spite of a sleeping-bag I was most uncomfortable. It was 6 o'clock before we rose, and the outlook had entirely changed. Tennant had risen at 4, and seeing the N.W. clouds tearing across the sky, turned in again. Our mountain was almost hidden from view, but we determined to go as far as the way led for three miles at least along the Mueller side of the range and this presented no difficulty. But we were not destined to get very far, as the rain came on in half an hour from the time we left the camp, and as Tennant had a bad heel we did not see the use of making it worse by continuing. The mountain of course was out of the question. The day proved to be one of those

unsatisfactory days, hardly one thing or the other. We were continually asking ourselves whether if we had gone on we might have been successful. The storm seemed to spend its fury on the Sefton Range and northwards in the Hooker and Tasman Valleys, and Clark, who was in the latter with a party of tourists, told us later that he had given up all hope for us. As it was, the day passed slowly, but we did not like to return to the Hermitage, as it was quite possible the storm would pass and give us another fine day on the morrow. Fuel was scarce, but we preferred economising rather than descending to gather more. We had a pack of cards, but of course no literature; but the day was luxury in comparison with the night, which we both agree in thinking the most uncomfortable we have ever spent. At 6 P.M. the rain came down in earnest, so we put the remainder of the wood in the rucksac, and then set about finding shelter for ourselves. Our old sleeping places were out of the question: underneath the slabs, however, we found a place into which it was just possible for two to crawl, and here with our sleeping-bags we made sure we should at least keep dry. We were unable to sit up because of the sloping wall above us, so we lay side by side with our heads at opposite ends. A candle served to give sufficient light to smoke by, and we prepared to rest. We were at least sheltered from the wind, as we had had to descend through a hole in a slanting direction for 12 ft., and it seemed impossible for water to penetrate to our retreat. But it did: it seemed to trickle down the 'hanging wall' in two streams, gentle but persistent. Then at a point precisely over the back of Tennant's neck, the little drops of water would leave the rock. There was a sort of fascination for me in watching his contortions, and in hearing the measured time of the drops falling on the hood of his sleeping-bag, but before long all my energies were required to avoid the shower at my end. Needless to say, we were soon wet through, and at 9.40 P.M. we held a consultation. To descend to the Hermitage in the dark would be a difficult matter, especially with our 'swags,' and we did not like to leave the things behind. The place would be closed, too, so we determined to sit it out. I do not quite know how the remainder of the night passed. A little after 1 A.M. Tennant left the shelter, muttering something about 'Luxuries' not being in his line. He stood up against one of the overhanging rocks outside until daylight. I managed to get a little sleep, though towards morning it got very cold, and when I emerged at daylight, shivering and soaked, I was glad to see the billy on the fire.

We got down to the Hermitage at 8 A.M., still in rain, carrying the sleeping-bags in turn. Thus ended our first attack on Mt. Sealy.

Tennant was confined to the house for some days after this on account of his heel, and it was not until March 7 that we were ready for another try. In the meantime I had sampled a fair amount of scree on minor hills, but as this kind of thing was not exhilarating I kept for the most part to the hotel smoking-room. The Governor's party departed on the 4th, and though there were still a few tourists at the Hermitage, we were at last able to count on Clark's assistance.

On the 7th he accompanied a party up the Hooker Valley, and Tennant went with them. I had a touch of lumbago, so decided to wait until they returned, which they promised to do in time to take sleeping-bags, &c., to some camping-ground. The day was a beautiful one, and everyone was out. In Macdonald, the hotelkeeper, however, I found a companion of no small wit, and the time passed quickly enough.

#### *The Ascent of Mt. Sealy, March 7 and 8.*

As the party did not return from their excursion till late we decided to dine at the Hermitage, and then make our way to the lagoon half way up the hill, and not to the ridge again as we originally intended. We would have the moon to guide us.

We started a little in front of Clark, who stayed behind to pack the swag. It was pleasant going in the cool of the evening, and I hurried on up Kea Point path to get a glimpse of Mt. Cook before the glow from the western sun had disappeared. I could see the reflection of the sunset in the sky above Mt. Cook, and when the mountain itself came into view a magnificent after-glow was presented before me. The whole mountain seemed bathed in gentle light.

In spite of it being evening the climb up the gully was warm, and when I came to a convenient place for gathering fuel, I sat down and waited for Tennant. It was dark when he arrived, except for the moon, which was threatening to disappear behind Mt. Sefton, and after a rest we pushed on again, loaded with wood, towards the lagoon. I missed the path somehow soon after this, and began to think the lake had been left behind altogether. I called down several times to Tennant to ask him if this were not the case, but he assured me it was still above, and at last I reached recognizable ground, and a few minutes' walking along the slope brought me to the camp. Tennant and Clark arrived almost

immediately, just as the moon disappeared from sight: we had been two hours. But we had done well to take it as we did, for this is the roughest part of the whole thing excepting the Sealy rocks, and at the beginning of a long day would have been most objectionable. As we had plenty of fuel we boiled some tea before turning in, and the night was so fine and the grass so soft after the rocks on the ridge, that we passed a most comfortable night in spite of there being no shelter. I had taken the precaution of bringing up a hot-water bottle to prevent a recurrence of lumbago, so enjoyed an unaccustomed luxury.

We woke on a perfect morning and made a start at 5.20. An hour's walking brought us to the ridge, just as sunlight fell on the tops of the mountains. The Sealy Range protected the Mueller Glacier and the lower peaks at the head of the glacier. They looked remarkably fine in the morning light. We had now about two miles along the shaded side of the range on alternate slopes of snow and débris before we reached the Barrow Glacier. Frequently we turned to admire the panorama to the North, where Mt. Cook presented a splendid centre of Alpine peaks; then skirting below the rocks which Zurbriggen followed in the first ascent, we found ourselves on the upper portion of the Metfield Glacier, a delightful snowfield guarded by fantastic rocks to north and south, and terminating in a pretty col, to which after a rest we made our way. On our right were the Sealy rocks: behind us were the mountains across the Mueller Glacier, while northwards Sefton looked magnificent.

At 10.20 (8 hrs.) we reached the foot of the rocks at the col, and here we rested half an hour. The mountain looked so rotten that I thought it might be safer if I went unroped. We had only two short ropes, and I did not grasp for the moment that the middle man could have the ends of two ropes round him: I imagined somehow that it would necessitate a knot, which would be apt to dislodge stones. This was a mistake, but there are undoubtedly occasions when the rope is not a precaution, but an increased danger. As it was, the going was facilitated, and we reached the summit in an hour. Avoiding the precipitous block of rotten rock which introduces the arête, we followed the line taken by the original party in the descent, reaching the arête by a succession of extremely rotten chimneys to the right. Then the work became more interesting. It was very exposed in places, for the ice-bound southern slopes fell in incredible steepness for 4,000 ft. to the valley below. Progress continued



*Photo by O. J. Bainbridge.*

**MT. COOK AND THE FOOTSTOOL FROM THE SEALY RANGE.**

*[Swan Electric Engraving Co.]*

satisfactorily until we came to the snow col which leads to the last bit of steep rocks. Here the arête was so sharp and the snow so hard that we found it convenient to negotiate the difficulty astride, using our hands on the arête for motive power. A rope was thrown to me as I reached the rocks on the other side. A steep chimney brought us to easy ground, and we sat on the summit at half-past eleven. Unfortunately, the camera had been left at the col. It is a Snappa, holding twelve plates, and rather heavy, and as we feared the plates were all fogged in changing at the Hermitage, I was not very enthusiastic in taking photos. But the view from Sealy is one of the finest I have ever seen. A blue haze marked the sea over the southern end of the Mueller Glacier, while Sefton, Cook and the Tasman Peaks showed well to the North. Lakes Pukaki and Ohau formed a striking contrast to the South, while a panorama of minor peaks could be seen in the direction of Mt. Aspiring. It seemed a simple thing to make a traverse of the mountain and across the Metfield Glacier lower down, but this was out of the question, as the provisions and axes had been left at the col. I donned the rope for the descent, as this was not one of the occasions when a rope is an added danger. We reached the col again without mishap, and congratulated ourselves on the ascent in another breakfast. Tennant made a ferocious enquiry into the constituents of an orange.

Needless to say the four miles of snow slope and débris were very tiresome, and the final knee-breaking descent from the ridge to the Hermitage was none the less so, but though our arrival was not heralded by the strains of an orchestra, and though no bier-halle was present to ease the thirst of the weary mountaineer, there was a very useful bar and a beer barrel, into which now, as on many other occasions, we made a very creditable excursion. We had been out thirteen hours.

#### *The Tasman Glacier. Mt. Darwin.*

Bishop Grimes had arrived at the Hermitage a day or two before we made our Sealy expedition: he wished to make an excursion to the hut up the Tasman Glacier, and as Monday, the 9th, was fine we agreed to go together. I was feeling stiff from the sharp descent from the Sealy Range, but fortunately we did not have to make an early start. In fact, the day was so hot that we decided to wait, and lunch at the Hermitage: in this manner most of the journey would be made in the shade. For about three miles the way leads

down the valley, then the River Hooker is crossed by a cage on a rope, and the path winding round the southern spurs of the Cook Range takes a northerly direction, following a creek by the side of the lateral moraine of the Tasman Glacier. We took one pony with us: the Bishop declined to ride, as he had heard that the path was unsuitable for equine exercise. The others, accompanied by two ladies who were seeing us off over the river, went on ahead, Clark and I following when everything was ready.

There is nothing particularly interesting in the walk to the Ball hut; no alpine view can be seen from the path, De la Bèche being the only visible mountain. We got in just at daylight. Hans, the Swiss porter, was there; he said he was not thriving on tinned meats, but I fancy he understands the art of doing himself well. 10th.—He accompanied us up to the Maltebrun hut next day. The sky was slightly overcast, so we did not suffer much from the effects of the sun on the ice. There is a great deal of moraine to be negotiated; once on the Tasman Glacier, however, there is an uninterrupted walk on clear ice for several miles. The journey occupies from 4 to 7 hrs., and concludes with a steep scramble up the slopes of the Maltebrun range to the hut; quite short, but rather hard at the end of a day. The Bishop, in spite of a fall or two, was to the fore all the way; he was a very cheerful companion, possessing as he did an illimitable supply of anecdotes.

Both the huts in the Tasman Valley are very creditable pieces of work; they are spacious and comfortable, and the fireplace does not smoke the place out. Bunks take the place of the boarding of the Swiss huts, and there is always a compartment for ladies. They are both well and suitably provisioned, and hold eight people comfortably. The Hermitage tariff includes the use of the huts and the provisions, and indeed at the Maltebrun hut the mountaineer comes nearer Mr. Mannering's description than ever he does in Switzerland. There were books too, and behind the building a veritable 'Shoehorn,' on which it is possible to imitate one's performances at Zermatt. We all rested on the 11th. It was a well-spent day, for it is impossible to tire of the view from this point. Mt. Darwin, which had impressed us as we came up the glacier, was hidden by the northern spurs of the Maltebrun Range. The Hochstetter Dome and Elie de Beaumont, however, were splendid exhibitions of snow-field and ice-fall, but it was Mt. Green that especially attracted us. When we heard that the peak was unclimbed we made a care-

ful examination through a telescope, but so late in the season the apparent route, consisting entirely of ice and snow work, was rendered very doubtful owing to a succession of large crevasses. We thought we saw another possible route in the south arête, but to reach this some difficult-looking rocks would have to be negotiated; and it was doubtful from where we were whether it would be possible to approach these, owing to the existence of an extensive bergschrund which cut off the mountain from the glacier.

As it was, we decided to spend the following day in an attempt to climb Mt. Darwin, as this would enable us to make a more detailed examination of Mt. Green.

The Bishop arranged to return to the Ball hut with Hans Fluckinger.

Mt. Darwin had only been ascended once before, by Dr. Kronecker with Messrs. Fyfe and Clark. The expedition occupied on that occasion over twenty hours.

#### *The Ascent of Mt. Darwin, March 12.*

We were awakened on the morning of the 12th at 3.30. What a fearful hour it is! One's boots are hard and difficult to get on, the breakfast more or less repulsive, and one's energy quite unequal to the demand made upon it.

We descended the steep slope to the glacier with difficulty: the moon had disappeared behind the western range, and the candle light was hardly sufficient to guide us among the boulders. Once on the glacier, however, we made good progress.

What a beautiful effect early morning has in mountain scenery! The crisp measured tread of our boots on the ice was the only sound to be heard on that vast snowfield. Refreshed by the cool air, on we went in the direction of the Hochstetter Dome, passing the Darwin Glacier on our right, and then the southern spurs of the mountain itself, not changing our direction till the rocks gave place to a steep broken glacier which led to the col from which we intended to follow the arête. There were a few rather awkward crevasses to be crossed, so we donned the rope, hoping in the afternoon to find an easier way down to the Tasman Glacier.

Shortly before reaching the col we found some suitable rocks for a breakfasting place, and though we had only been going for two hours the pace had been sufficiently brisk to make a rest acceptable. The sun had now risen, but we were

protected, and enjoyed shade for some hours more, and were enabled to dispense with the use of goggles.

It was more of a ridge than an arête we had to follow; much broken in places, but nowhere very difficult. This led to a summit from where we expected a sharp long arête to the top. At a convenient place we made a second breakfast, for the climb was long, and we had a good deal of ground to travel. Occasionally strong gusts of wind caught us and we took as much shelter as we could. As we got higher the rocks became more rotten, and in places it was all we could do to avoid dislodging stones.

There was no shelter from the wind when we reached the point from which the summit can be seen, but our exertions



MOUNT DARWIN AND THE HOCHSTETTER DOME FROM THE TASMAN GLACIER.

had warmed us by this time, and we feared nothing from the cold. The final ridge was rather disappointing: seen from a point on the Tasman Glacier it has a very sharp appearance. As it was we found that we had left the best of the climbing behind us. We had a succession of points to climb, and new arêtes to follow before we gained the summit. This we reached at noon (8 hrs.), and as the wind had abated somewhat we spent an hour and a half enjoying the view. To the North we could see a succession of peaks stretching away for a hundred miles; while nearer, beyond the Hochstetter Dome, the luxuriant vegetation of the West Coast bush formed a lovely contrast. Elie de Beaumont looked especially striking. Mt. Green lost nothing in appearance from our

elevated position, while beyond, the Waiho Bluff introduced a wide expanse of sea. Mt. Cook, towering above everything else, did not form the centre of an extensive panorama as from Sealy; on the other hand, we gained by a view of the unexplored regions to the North and the splendid contrasts provided in the West Coast bush.

After adding our cards to those of Dr. Kronecker, and placing both securely in a jam tin, we prepared for the descent. It was slow work, and we made frequent halts. When at last we reached the col from which a glacier descends to the Tasman, we examined the eastern slopes of the mountain, in the hopes of finding a shorter descent by way of the Darwin Glacier. But the slopes were very steep and there was much ice, so we decided to continue on our old route. The snow was soft, but luckily we were able to avoid the crevasses we had crossed in the morning by a *détour*, and once on the Tasman Glacier we unroped and walked down to the hut (15 hrs.). It was dark when we arrived there. Provisions were getting a bit low and bread was 'off,' but we did full justice to what was left.

On Friday, 13th, we rested. We had been going fairly hard since Saturday, and did not feel equal to attacking Mt. Green at once. I am afraid this was tempting Providence, as five fine days running were most exceptional. Mt. Cook seemed now in fair condition, but it was so late in the season that moonlight was imperative. We expected the full moon in a few days, and we were quite intending to make an attempt on the mountain. We calculated that by sleeping on the snow below the rocks, three hours beyond the Hochsetter bivouac, we should require eighteen hours to reach the summit and get back to the camp. The better route from the Hooker Glacier was out of the question, as the seracs so late in the afternoon were impassable. But unfortunately the fog which rolled up on Friday from the West Coast was the herald of another spell of bad weather. All through Saturday it poured, and on Sunday morning so much snow had fallen that Mt. Green was obviously out of the question.

*Sunday, 15th.*—We rose at 8 A.M. and determined to go straight down to the Hermitage. We left the hut with a rucksack apiece at 10 A.M., and when we reached the glacier found it in such a glazed condition that progress was very difficult. Lower down, however, the conditions improved and we reached the Ball hut in four hours. We spent an hour and a half there and then continued our journey. Soon we came across a party of tourists who were going up to the hut

for the day. The Cook Range seemed to shelter us from the storm, but when we had crossed the Hooker River by the cage we caught it, and for the last three miles had to make our way against a raging wind. But the lights of the Hermitage were in sight, and at 7.45 we reached the welcome shelter.

Our expedition up the Tasman Glacier was a very pleasant one, and though Mt. Darwin cannot be considered a first-class peak from a climbing point of view, the ascent is well worth making, as it is one of the few which can be comfortably done from the Maltebrun hut.

*(To be continued.)*

## WINTER EXPLORATION IN THE ALTAI, SOUTH CENTRAL SIBERIA.

By S. TURNER.

**B**Y travelling 2,250 miles beyond Moscow you come to Novo-Nicholaewsk, on the Siberian line at the Obi station. The Obi River flows past this settlement. If you follow the river to its source you come to the Kotanski Belki range, 700 miles direct S. from the railway at Obi.

This range is the highest of the Altai mountains. Belukha (14,800 ft.) is the only peak shown on any map, but there are a number of higher mountains in the range. My expedition was to explore the country as far as Belukha, climb and measure that peak (which was the highest one known, and had only been measured twice; the first time it was 11,200 ft., and the second time 14,800 ft.), and measure any other peaks, and make glacier observations and observations on mountain-formation.

I enquired from the Geographical Society, and was only able to gain a few lines, translated from Russian, to the effect that Professor Sopoziukoff, of the Tomsk University, had explored this region and climbed 13,300 ft. up Belukha from the S., and measured it 14,800 ft. There is no English literature on the subject, and only one book in Russian. I saw the Professor at the Tomsk University, and found that he was the only explorer of the district mentioned, and that he had also made an excursion to the N. side and gained 8,400 ft. up the Belukha glacier. He also gave me an idea how to get there, but said it was impossible in winter. He went in the summer. There had been several mountains measured about 14,000 ft., including Iktoo and Irbristoo, also