

and S. of the Sang Po or Brahmaputra. At present we have no maps of it, it is unexplored and unknown and covers a large area on the maps. Perhaps next year some part of it may be visited by the surveyors of the expedition.

With the knowledge and experience gained this year, the 1922 expedition should bring back results even greater than those already obtained. The 1921 expedition was, in the nature of things, merely a reconnaissance; and when all the difficulties and unforeseen mishaps that always occur in preliminary explorations are taken into account, one must congratulate Colonel Howard Bury and all the other members of the expedition on having been so extraordinarily successful. Another fact that may be mentioned is that this first-rate piece of exploration into an unknown country has cost considerably less than any other expedition of equal importance.

Next year there will be a larger and stronger climbing party. They should, if all be well, be at the base of Mt. Everest two months earlier than they were this year. There is no doubt that June and July are finer months round Mt. Everest than later, after the monsoon has broken. Given good weather, there seems to be no reason why they should find insuperable difficulties in climbing along the N. and N.E. arêtes of the great mountain. The photographs show no difficult rocks, and no extremely steep ice slopes. Of all the great peaks, K₂, Nanga Parbat, Kangchenjunga, Makalu, Nanda Devi, etc., none have such easy access to their summits as Mt. Everest. Let us hope that next year the summit may be reached.

A TRAVERSE OF MONT BLANC.

By GEORGE FINCH.

IT is a curious fact that, to this day, the southern slopes of Mont Blanc rank amongst the least frequented districts of the Alps. Mr. James Eccles who, with Michel and Alphonse Payot, first climbed Mont Blanc from the S. over forty-four years ago, remarked in a paper read before the Alpine Club,¹ 'it is singular that, notwithstanding their close proximity to a good mountaineering centre, the glaciers of the southwestern end of Mont Blanc have been, compared with other parts of the chain, so neglected by Alpine climbers.' Of the

¹ *A.J.* viii. 409.

Brouillard and Fresnay Glaciers, the serious explorers of which may almost be counted on one's fingers, Eccles's words still hold good.

In its general outline, the geography of the southern slopes of Mont Blanc is simple enough, as a glance at the Imfeld-Barbey map will show. The western and eastern boundaries are, respectively, the Brouillard and Peuteret² ridges which converge in Mont Blanc de Courmayeur. The region enclosed by these two colossal ridges is bisected by the Innominata ridge, on either side of which a glacier flows down from Mont Blanc; the Brouillard Glacier between the ridge of the same name and the Innominata ridge, the Fresnay Glacier between the latter and the Peuteret ridge. Both glaciers are remarkable for their steepness and the extent to which they are broken up. From source to snout, the Brouillard Glacier forms an almost uninterrupted ice-fall, the Fresnay Glacier even more so: indeed, from afar the latter resembles the tumbling, foaming crest of a storm-tossed wave. To the S. of the Innominata lies a third glacier, the Glacier du Châtelet, but compared with the other two, it is insignificant in size and gentle in slope. All three ridges rise from the Val Veni in the form of great bluffs and cliffs. These, in the case of the Brouillard, soon narrow down to a well-defined ridge which, unbroken by any really prominent feature, rises steadily up to the two summits of Mont Brouillard (3966 and 4053 m. respectively). A gentle dip leads farther to the snowy Col Émile Rey (4007 m.), out of which steep cliffs, constituting a somewhat badly defined ridge, swing themselves up to the Pic Luigi Amedeo (4472 m.), whence a long ridge rising at a comparatively gentle angle culminates in Mont Blanc de Courmayeur. From beginning to end, the Brouillard ridge forms a vast crescent; curving N.N.W. in its lower half, it veers towards the N.N.E. in its upper, and terminates almost due N. of its source in the Val Veni. The precipitous, rocky south-eastern flank of the ridge between the Pic Luigi Amedeo and Mont Blanc de Courmayeur constitutes the uppermost portion of the S. face of Mont Blanc.

Totally different in character is the Peuteret ridge once it has become well defined as such in the vicinity of the summit of the Aiguille Noire de Peuteret, where the two ridges enclos-

² Spelt, for some unknown reason, 'Pétéret' on the Imfeld-Barbey unofficial map, but 'Peuteret' on the Mieulet official map of 1865 and in Alpine literature.

ing the Fauteuil des Allemands converge. Following a north-westerly direction, the Peuteret ridge carries two outstanding elevations, the Aiguilles Noire and Blanche de Peuteret, which are separated from neighbouring portions of the ridge by the deep clefts of the Col des Dames Anglaises and the Col de Peuteret respectively. Out of the former, tower the bold spires of the Dames Anglaises, enhancing the jagged outline characteristic of the ridge which, from the Col de Peuteret, in a final stupendous effort, soars up to Mont Blanc de Courmayeur.

In the Aiguille du Châtelet (2527 m.), the Innominata ridge at first makes rather a pusillanimous attempt to merit the description, then becomes lost in broad scree slopes from which emerge two ridges. One of these flanks the Brouillard Glacier, the other the Fresnay Glacier, and carries the Aiguille Joseph Croux and the depression called the Col de l'Innominata. At a point S. of the Innominata itself, these two ridges finally unite, enclosing between their southern flanks the little Glacier du Châtelet. N. of the Innominata, the ridge, running almost parallel to the Peuteret, dips into the depression known as the Col du Fresnay. Above the col it rises to a rocky summit beyond which lies another depression whence, in a futile attempt to connect with the Brouillard ridge, it rises abruptly in the direction of a point almost midway between the Pic Luigi Amedeo and Mont Blanc de Courmayeur, and after a last supreme endeavour to preserve its individuality in the shape of a huge, precipitous, red rock buttress, eventually loses itself in the rocky escarpments of the S. face of Mont Blanc at an altitude of about 4400 m.

The nomenclature of several portions of the Innominata ridge appears to me to require reconsideration. The Col du Fresnay of the Imfeld-Barbey map, I propose to call the Col Inférieur du Fresnay; its elevation is about 3610 m. The well-defined rocky summit above the col may be called the Pic Eccles (about 4050 m.), as I find the name has come to stay amongst the guides and porters of Courmayeur. To the depression N. of the Pic Eccles, the brothers Gugliermina³ have given the name of 'Col du Mont Blanc.' Mr. E. G. Oliver, however, rightly points out that this name should be reserved for a possible col between Mont Blanc de Cour-

³ *Il Versante Italiano del Monte Bianco*, by F. Mondini, G. F. and G. B. Gugliermina, and E. Canzio, in the *Bollettino del C.A.I.* xxxv., should be consulted by all serious students of the southern slopes of Mont Blanc.

mayeur and Mont Blanc. Equally unsuitable, on the other hand, seems Mr. Oliver's suggestion, as a substitute, of the name 'Col du Brouillard' which, in complete analogy with the Col de Peuteret, ought to belong to the depression on the Brouillard ridge now known as the Col Émile Rey. The most fitting name, therefore, for our pass, the elevation of which is about 4020 m., would appear to be the 'Col Supérieur du Fresnay.'

In so far as successful attempts to reach the summit of the mountain are concerned, the history of the exploration of the S. face of Mont Blanc is soon told. Prior to 1919, only two parties met with success. On July 30, 1876, Mr. James Eccles,⁴ accompanied by Michel and Alphonse Payot, left Courmayeur, and gained a gîte in the rocks of the Innominata ridge, about midway between the Col Inférieur du Fresnay and the Pic Eccles, at about 3800 m. Leaving their bivouac at 2.55 next morning, they traversed the Pic Eccles into the Col Supérieur du Fresnay whence, descending steep rocks and an ice-filled couloir, they gained the uppermost level of the Fresnay Glacier. Three hours after leaving their bivouac, they crossed the bergschrund and began the ascent of the steep slopes of the great snowy couloir, which falls away towards the Fresnay Glacier from immediately above Point 4381 on the Peuteret ridge. Taking to the broken rocks on the left (ascending) bank of the couloir as soon as possible, they followed these without difficulty to their end. Another bout of step-cutting then brought them out on to the Peuteret ridge, up which they arrived on the summit of Mont Blanc de Courmayeur at 11.40 A.M. At 12.35 P.M., nearly ten hours after leaving their bivouac, Mont Blanc itself was under foot.

The only other successful expedition carried out before 1919 was that of Signor Gruber,⁵ with Émile Rey and the porter Pierre Revel, in 1880. Leaving Courmayeur on August 14, they bivouacked on some rocks near the Col Inférieur du Fresnay. Crossing the col next morning, they descended to the Fresnay Glacier and worked towards the foot of the great rock buttress immediately between the huge uppermost ice-fall of the glacier and the Aiguille Blanche de Peuteret.⁶ Late that afternoon, after most difficult climbing, they arrived in the Col de Peuteret, and thence followed the Peuteret ridge

⁴ *Loc. cit.*

⁵ *A.J.* xxiv. 679.

⁶ See illustration *A.J.* xxiv., facing 678; the buttress lies to the left of the white cross.

as far as Point 4381, when nightfall compelled them to bivouac a second time. Next day (August 16), keeping to the Peuteret ridge and very soon joining Eccles's route, they passed over Mont Blanc de Courmayeur and, four hours after leaving their bivouac, stood on the summit of Mont Blanc.⁷ This climb is usually referred to as if it were merely a variation of Eccles's route. It is true that they have in common the ascent to the Col Inférieur du Fresnay and that portion of the Peuteret ridge lying between Point 4381 and the summit of Mont Blanc, but otherwise the two routes differ to such an extent that Gruber's is worthy of being described as a new climb, and it was moreover the first complete ascent of the Peuteret arête.⁸

For the next thirty-nine years, the gaunt ramparts of the southern flank of Mont Blanc effectively repelled all further assault. It seemed almost as if the great white mountain had found fresh strength in the defeats suffered through the hard-won victories of Eccles and Gruber. It was not that Mont Blanc, during this long interval, remained a victor through lack of would-be conquerors. All who came were firmly repulsed. The more fortunate escaped whole in life and limb; from others the death-toll was ruthlessly exacted.

The spell was finally broken in 1919. On August 20 Messrs. Oliver and Courtauld, with Adolfe and Henri Rey and Adolf Aufdenblatten,⁹ bivouacked in the Col Inférieur du Fresnay. The following day they traversed round the Pic Eccles, close below its summit, and gained the Col Supérieur du Fresnay, whence they followed the continuation of the Innominata ridge until, driven over to the left by the vertical smooth rocks of its great final buttress, they were forced to climb the rocks of the S. flank of the uppermost Brouillard ridge. This they gained at a point between the Pic Luigi Amedeo and Mont Blanc de Courmayeur, but rather nearer the latter. In little over eight hours after leaving their bivouac they arrived on the summit of Mont Blanc, having thus opened a third route from the S.

⁷ An interesting inscription, written by Signor Gruber and giving brief details of this formidable expedition, may still be seen pencilled on a beam in the Dôme hut, *viâ* which the party returned to Courmayeur. From the general tone of this inscription, short as it is, can be gathered the strong impression which Mont Blanc had, on this occasion, made upon all members of the party.

⁸ For the history of this arête cf. *A.J.* xxiv. 690 *seq.*

⁹ *A.J.* xxxiii. 129.

Early in August 1921 the fourth successful ascent was effected by the famous Italian mountaineers S^r. G. F. and G. B. Gugliermina and Francisco Ravelli—names for ever entwined with the history of Mont Blanc—and a porter from Courmayeur. They followed in its essentials the route of Messrs. Oliver and Courtauld. Their first bivouac was in the rocks of the Innominata below the Col Inférieur du Fresnay, their second at the foot of the final great buttress of the Innominata ridge, while, on the descent, a third night was spent in the Vallot hut.

Towards the end of July 1921 I found myself in Zermatt, without a climbing companion—a lamentable state of affairs, due to trouble in Ireland preventing Forster from joining me as had been arranged. When Oliver and Courtauld arrived with the two Aufdenblattens after a successful traverse of the Dom from Saas, I was therefore more than pleased by their kind invitation to join their party. Theoretically, of course, I had no right to accept this, because I was out of training and had done nothing beyond walking half-way up to the Schwarzsee.

Getting into training seems to be a spectre which looms large in the minds of most climbers of to-day. Often I feel impelled to think that, at all events from the physical point of view and as far as more youthful climbers are concerned, this fantastic mental conception must be, to a great extent, the result of auto-suggestion. In spite of a sedentary occupation, wholly unrelieved by any active form of sport, I am always ready to start climbing by climbing, and not by indulging in a ramble. In this instance, moreover, the immediate programme in view was not too ambitious, our aim being merely to get, somehow or other, to Breuil. The Col Tournanche was chosen as a pass for the sake of its novelty, none of us having previously crossed it. Arrived in Breuil, Oliver and Courtauld went on to Courmayeur, whilst I returned to Zermatt to bring my luggage round to Courmayeur by rail. A few days later we were together on the Aiguille de Tronchey, with a keen eye to possibilities of a new route up the Grandes Jorasses. The great S. ridge of the latter, however, showed no breach in its formidable defences, but the Peuteret ridge of Mont Blanc appeared to be in such a first-rate condition that, could it but be gained from the Brouillard and Fresnay side, it would almost certainly 'go.' Talking matters over on our return to Courmayeur, we decided to repeat Eccles's route. The ascent of the Peuteret ridge *viâ* the Aiguille Blanche de Peuteret was ruled out on account of the dangerous condition of the Brenva

Glacier and of the Aiguille Blanche itself—a condition due to the huge rock and ice fall of November 1920.

On the following day, from a point in the road near the second refuge on the Italian side of the Petit St. Bernard, I carefully examined the S. flank of Mont Blanc. The descent from the Col Supérieur du Fresnay on to the upper basin of the Fresnay Glacier seemed feasible, but the bergschrund below Eccles's great couloir leading up to the Peuteret ridge appeared doubtful. The rocks showing through both to the left and the right of the Peuteret ridge, however, seemed to be as free from snow and ice as they were ever likely to be, while the ridge itself appeared to carry good snow.

On August 7 we left Courmayeur with four porters and two carriages bearing our kit, Oliver, Courtauld, and myself as far as the Alpe du Fresnay, shortly after leaving which we encountered our first difficulty in the shape of the unfordable torrent descending from the Fresnay Glacier. By means of two felled trees discovered in a wood nearby, we improvised a somewhat unstable bridge which most of us preferred to cross on all fours. Alfred Aufdenblatten boldly essayed to walk across, but not knowing the secret of keeping his eyes fixed on the bridge instead of on the water, lost his balance and only saved himself by a wild jump, which barely landed him on the far bank. Towards nightfall we gained the Gamba hut, situated on the Innominata ridge a little above the Aiguille du Châtelet.¹⁰

Next morning we left shortly after daybreak, ascending over the débris-strewn slopes towards the moraine on the left bank of the Brouillard Glacier, and took to this glacier at an altitude of about 2900 m., at the point where the moraine ends and the rocks steepen up towards the Innominata. The work in front of us now changed completely in character. Ropes and climbing irons were put on; Adolf and Courtauld took the lead; Oliver, Alfred, and I formed the second party, while the porters, roped together two by two, brought up the rear guard of our little army.

Our labours began at once. Huge crevasses, the upper lips of which were often disconcertingly high above the lower, soon forced us out towards the middle of the glacier, where

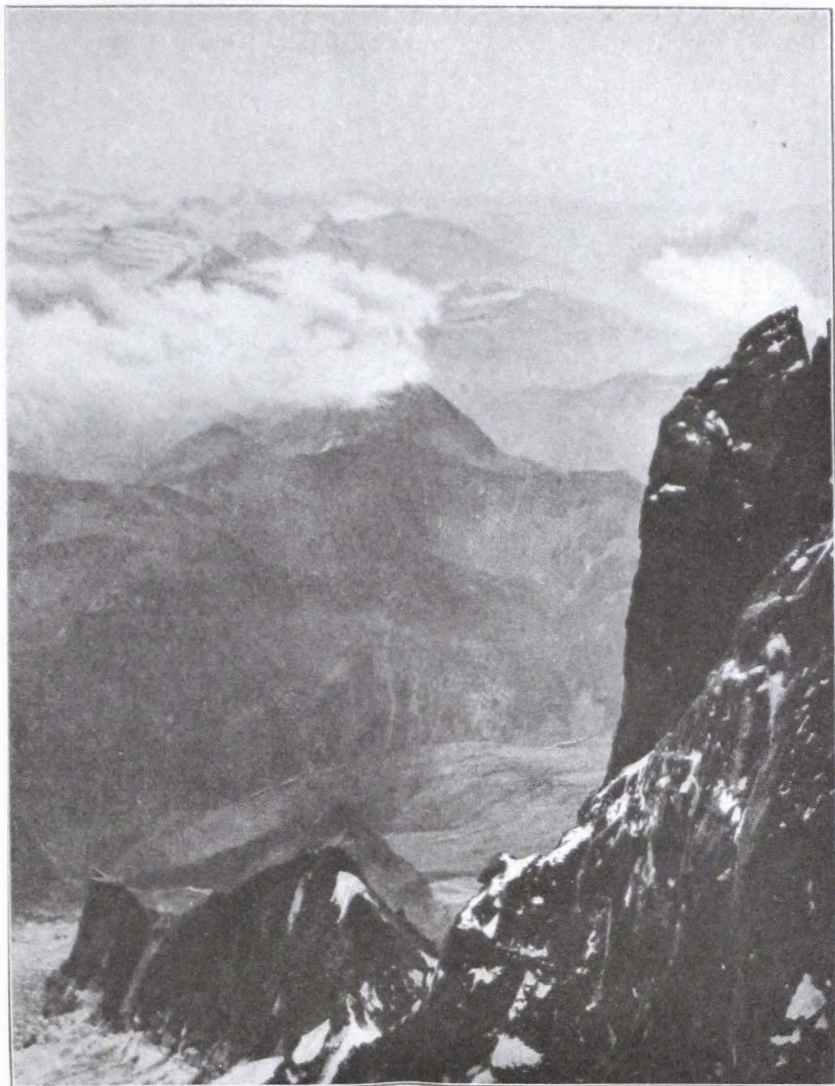
¹⁰ The original Gamba hut stood on the Fresnay side of the Châtelet-Innominata ridge. In the winter of 1919–20, however, it was wrecked by an avalanche, and from the débris was constructed the present hut, which stands on the ridge itself about ten minutes above the old site, at approximately 2530 m.

constant step-cutting was the rule. Progressing very rapidly Adolf cut small steps, upon which we improved, so as to make things easier for the heavily burdened porters. After much twisting and turning and some pretty ice-work, we reached a small plateau somewhere above Point 3091, where the Brouillard Glacier makes an heroic but rather unavailing effort to be level, prior to indulging in a mad tumble over a noisy 'Heisse Platte.' Here a half-hour halt was called for breakfast. We could now see right up to the head of the glacier, and Oliver pointed out to me the line of their ascent of 1919.

The choice of either of two ways up to the Col Inférieur du Fresnay now lay before us. We could follow the glacier, keeping more or less in the middle, or else traverse high up to the right across steep ice slopes leading down from the ridge of the Innominata. The latter route bore unmistakable evidence of having been recently swept by falling stones; débris on the glacier, however, testified even more generously to the fact that ice also falls, and in addition we could detect an abundance of bridgeless crevasses. We therefore chose honest step-cutting across the steep ice slopes. All set to work with a will, and progress was rapid. Dangers and difficulties ceased at a point somewhat below, and to the W. of, the Col Inférieur du Fresnay, where the glacier once more interrupts its headlong course to the valley by indulging in a small snow-field of moderate incline. No difficulty was offered by the final bergschrund below the col, into which we stepped at 10 A.M., nearly five hours after leaving the hut.

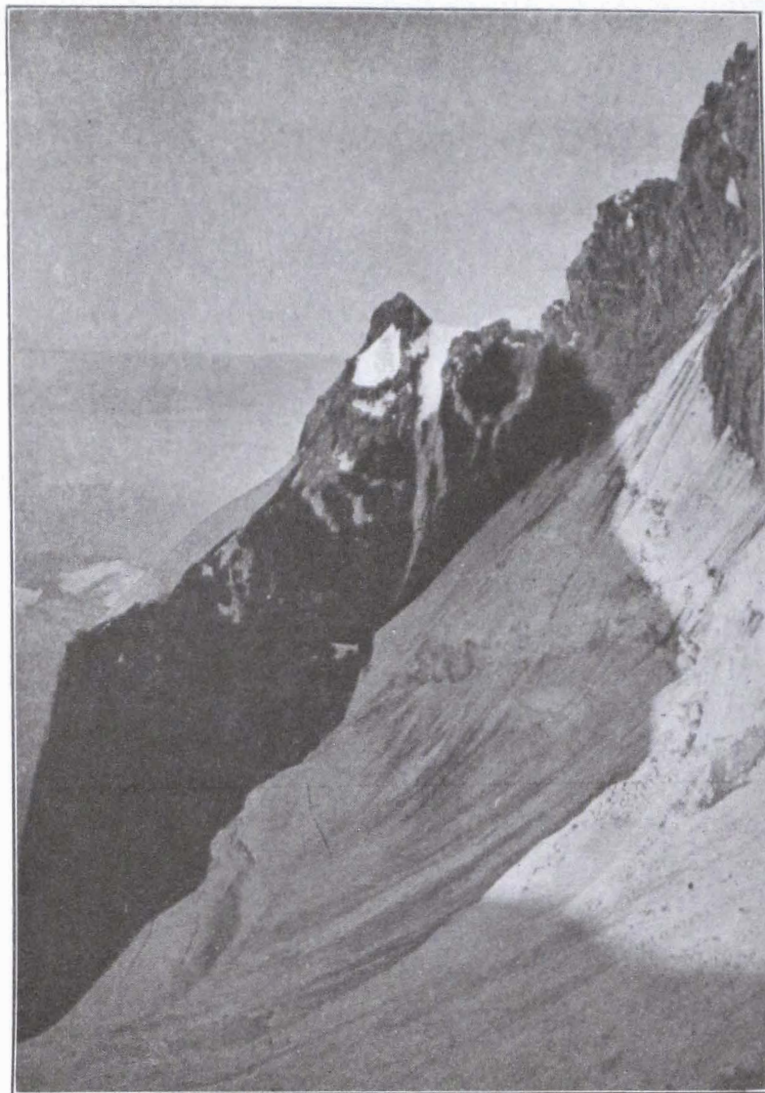
The Col Inférieur du Fresnay is a striking view-point from which the Innominata and the Aiguille Noire de Peuteret both show to extraordinary advantage. The descent from the col on to the Fresnay Glacier does not appear to be difficult, although the rocks are sometimes steep and certainly rather rotten.

After a rest of an hour and a half we once more got under way, and climbing up the ridge in the direction of the Pic Eccles, mounted over a short pitch of steep rock followed by an ice slope where heavy step-cutting was essential. This slope landed us on another diminutive snowy plateau, over which we made our way in the direction of the spur of rocks forming the W. ridge of the Pic Eccles, and on which, after crossing a bergschrund and cutting up an ice slope, we effected a lodgment. Just as my party gained the rocks, a loud clattering was heard from the slopes of Mont Brouillard. Quickly pulling out my camera from my coat pocket, I was in good time to take a



G. Finch.

THE INNOMINATA RIDGE
from about 4,450 m. on Peuteret Ridge.



G. Finch.

PIC ECCLES AND COL SUPÉRIEUR DU FRESNAY
from upper basin of Fresnay Glacier.



G. Finch.

ASCENDING PEUTERET RIDGE (about 4,500 m.).



G. Finch.

AIGUILLE BLANCHE DE PEUTERET
from halfway up couloir leading to Pt. 4,381 on Peuteret Ridge (about 4,150 m.).

photograph of one of the most gigantic stone-falls I have ever seen. For several minutes dense clouds of stone dust hung over the track of the avalanche, while many large blocks swept over the Brouillard Glacier, right across the line of ascent followed by the brothers Gugliermi on the occasion of their memorable crossing of the Col Émile Rey.

After a brief halt, for the porters to close up, we commenced our assault on the rocks ahead. The climbing, though occasionally very steep, was not particularly difficult, despite the treacherous nature of the rock and the downward slope of its stratification. Incidentally, it may be remarked that, though unreliable, the rocks of the Pic Eccles were certainly the best encountered during the expedition. Taking the utmost care to avoid dislodging loose stones which were sometimes of a formidable size, we made our way up towards the summit of the Pic. When still some distance below it, however, Adolf led out to the left on the Brouillard side, and after some healthy passages across ice-filled gullies we arrived in the Col Supérieur du Fresnay, without having actually passed over the top of the peak. The rocks on the Mont Blanc side of the col were gained at 2.30 P.M., and the several members of the party proceeded to select their couches for the night. It had been arranged that, at this point, two of the porters should return to the Gamba hut, but beyond depositing their loads, they made no attempt to move; indeed, they even threw out hints about preferring to stay with us till the following day. The polyglot imaginative eloquence of Adolf, however, soon persuaded them of the supreme folly of shivering in a bivouac when the seductive warmth and shelter of the hut were awaiting them. Their two companions were provided with blankets, as they were to remain the night and take down the sleeping-bags and excess kit on the morrow.

The Col Supérieur du Fresnay consists of a narrow snow ridge sloping off abruptly on one side to the Brouillard, and on the other to the Fresnay Glacier. To the E., beyond the Col Émile Rey (4007 m.), we could see a snow summit, probably Point 3885 m. of the Aiguilles de Trélatête. The height of our bivouac, therefore, must have been about 4020 to 4030 m. The great S. face of Mont Blanc falls away from the Brouillard ridge above, in slopes of broken rocks, which finally merge into enormously steep slabby precipices abutting on the Brouillard Glacier. The eye could follow the course of this glacier almost throughout its length. It is so grotesquely broken up that one wonders that it is possible to thread it. The uppermost basin,

still untrodden, I believe, by human foot,¹¹ and forming a little, almost level snow-field, is isolated by one or two formidable crevasses which cut right across the glacier from side to side. The W. face of the Aiguille Blanche de Peuteret, composed almost wholly of dark grey rock unrelieved by scarcely a single speck of snow, looks practically inaccessible. The route of the late H. O. Jones,¹² led by Laurent Croux, looks difficult and desperately dangerous from falling stones. Formerly, the Col de Peuteret was, so Oliver tells me, a snow-saddle from which either the Peuteret ridge or the rocks of the Aiguille Blanche could be gained with comparative ease. Now, however, as a result of the huge avalanche which fell away from the Peuteret ridge and the col itself in November 1920, the height of the latter has been considerably lowered, so that from our bivouac we could see beyond it right down to well below the summit of the Grand Flambeau. Great bergschrunds now bar direct access to either the Peuteret ridge or the Aiguille Blanche de Peuteret. From the lower rocks of the ridge itself much has fallen away, and they are now much steeper. Continual stone-falls, and the liberal traces left by them about the foot of the ridge, offered ample evidence of its present unstable condition.

It was impossible to find, or even make, a ledge which would accommodate the whole party; indeed, none proved wide enough to take more than one man, so that after each had selected his couch, we found ourselves well scattered over the mountain side. The two porters found a berth for themselves at the point where the snowy ridge of the col abuts on the rocks. My own sleeping-place was a level stretch of rock and snow ridge slightly higher up on the Mont Blanc side of the col, and on the very backbone of the Innominata ridge. About 3 ft. wide at the pillow end, but dwindling away to next door to nothing in the region of my feet, it had the advantage of length combined with the pleasant uncertainty as to which of the two glaciers, the Fresnay or the Brouillard, would have the honour of receiving my mortal remains should I lose my balance. The others deposited themselves on more or less inadequate ledges on the Brouillard side of the ridge. The nearest water supply was five minutes climbing distance down towards the

¹¹ The route followed by the brothers Gugliermi on the occasion of the only crossing of the Col Émile Rey does not touch upon this basin.

¹² *A.J.* xxiv. 678.



G. Finch.

COL AND AIGUILLE BLANCHE DE PEUTERET AND THE UPPER BASIN OF THE FRESNAY GLACIER
from Col Supérieur du Fresnay.

Brouillard Glacier. On their journey back, skilfully balancing well-filled cooking vessels, Alfred and one of the porters (Henri Rey's son) performed some choice feats of rock-climbing.

There were still two hours of sunshine due before the last rays sank behind the Brouillard ridge, and these we utilised by changing our clothing (a lengthy process, as one hand was usually required for balancing purposes) and rearranging knapsacks, all superfluous equipment being put on one side for the porters descending next morning. In spite of all my efforts to reduce weight, my burden for the morrow's climb proved to be quite a respectable one. In addition to spare clothing, comprising shirt, storm cap, and gloves, I had climbing irons, two cameras, films for seventy-six exposures in airtight tins, and one day's iron ration for the whole party. This, consisting of 2 lb. of chocolate, the same quantity of sausage, and fifty cigarettes I had brought with me, feeling confident that the optimistic Adolf had made no provision as far as food was concerned for the possible eventuality of our being forced to bivouac a second time.

At half-past four, we had a frugal but welcome meal of hot soup. At five, the sun set behind the Brouillard ridge, and the inevitable chill of high altitude soon making itself felt, one and all prepared for the night. Alfred and I, finding our ledges somewhat too exposed for our liking, roped at either end of a 60-ft. rope, which we belayed over a projecting rock. Six o'clock saw us all settled down more or less comfortably. From all accounts, I seem to have spent the warmest night, and in view of this a few particulars as to my sleeping-bag may possibly be of interest. It was home-made: 7 ft. long and $3\frac{1}{2}$ ft. wide; it consisted of an inner bag composed of 3 lb. of finest grade eiderdown quilted in 1-ft. squares into the thinnest procurable balloon fabric, and an enveloping outer bag of similar material rendered airtight and damp-proof by a coating of 'Duroprene.' The total weight was just short of 5 lb.

I crawled into my bag. But soon the inevitable stone in the small of the back, of many a nocturnal episode in that wonderful Odyssey of the climber, 'Peaks, Passes, and Glaciers,' began its insistent ministrations. Unlike the heroes of olden times, however, I, deeming discretion the better part of valour, not only resisted the temptation to put the enemy *hors de combat*, but, by the simple expedient of curling round and clinging fondly to it with my hands, I made of it a comrade in arms whose tangibility did much to dispel the feeling of

insecurity born of the airiness of my perch. The last thing I remember was the crimson glory of the sunset touching the huge columns of storm-clouds which reared themselves aloft over the Grivola. I slept soundly. Twice only did I awake; once to find the lower portion of my anatomy dangling coquetishly over the Brouillard side of my couch; and again, stirred from a deep slumber by my instinctive grappling for an elusive hand-hold, to discover that I had transferred my legs to the Fresnay side.

About half-past four I was aroused by Adolf, rather blue about the gills but cheerful as ever, and obviously looking forward to a good day's work. He winked portentously, then, with a somewhat vacant stare, looked out beyond me towards the plains of Italy. Following his gaze, I soon understood. Over the Paradiso group vast thunder clouds still brooded; the sky was streaked with ominous, long, dark, fish-shaped masses, and I suddenly became aware that a wind had sprung up and was blowing past our bivouac in angry, fitful gusts. It seemed almost as if our climb were going to develop into a race against the approaching storm. I returned Adolf's confidential wink in kind as he passed me a generous cup of hot tea—a luxury which in similar situations, as a guideless climber, I had always had to procure for myself.

After a quickly swallowed breakfast, all was bustle in our camp. My boots, which I had lashed to a rock to make certain of not losing them (horrible thought!), were easily pulled on, for, though stiff, they were very large. By 5 A.M. everything was packed, sleeping-bags rolled up handy for the porters, and, roping in the same order as yesterday, we began the descent on to the Fresnay Glacier. This led down a steep couloir over extremely rotten rocks. The danger of inadvertently loosening stones was so great that we gave Adolf and Courtauld time to get round a corner out of harm's way before beginning our own descent. Once past the uppermost portion the slope of the couloir became more reasonable, and we were able to work down over a rib on one side till we reached a point a little above the head of the uppermost ice-fall of the Fresnay Glacier. Our way to the upper basin of the glacier led across a steep, ice-clad couloir followed by an ice slope which bore palpable signs of being frequently raked by falling stones and ice. Before we were ready to proceed, however, a stone fall of generous proportions clattered down into the couloir, isolated pebbles following at odd intervals. Nothing daunted, Adolf, the neatest, fastest, and most powerful step-cutter it has ever been

my good fortune to see at work, banged away across the danger zone in great style. The descent on to the Fresnay Glacier occupied in all barely an hour; besides the extreme rottenness of the rock, we had met with no real difficulty and were well satisfied with our rate of progress.

Threading our way through the maze of ice blocks, the remnants of ice-falls from the huge bergschrund above, we crossed the basin, veering round and up towards the bergschrund at a point almost immediately below the rocks flanking the W. bank of Eccles's great couloir. The previous evening, we had decided that of the only two possible ways of surmounting the obstacle this was the safer. The alternative lay in crossing the bergschrund far over towards the Pic Eccles, at the only spot where it was more or less adequately bridged. But this would have entailed hours of step-cutting across the stone-swept slopes above the schrund before Eccles's couloir could be gained. At the point of attack, a flake had become partially detached from the bergschrund, and Adolf and Courtauld made rapid headway to the summit of the flake, which was, unfortunately, about 20 ft. short of the top of the schrund. Seeing that further operations promised to take time, we ensconced ourselves comfortably down below while Adolf brought his wits to bear upon the solution of the problem of overcoming 20 ft. of practically perpendicular ice. He was half-way over the obstacle when he encountered a bulge which threatened to come perilously near destroying his balance. But the last ounce on the right side was supplied by Alfred's ice-axe, after we had hurriedly joined Courtauld on his somewhat unstable perch. After that all was easy, at least as far as the others were concerned, for they seemed to find no difficulty in gaily walking up Adolf's well-cut steps. But what with a knapsack on my back and a camera in my coat pocket, I found more than a little trouble in balancing myself round the bulge. This obstruction, in all 60 ft. high, having been negotiated, a steep slope, sometimes snow, sometimes ice, intervened between us and our next objective, the rocks on the W. bank of Eccles's couloir. We mounted quickly, for scarcely a step needed to be cut, thanks to the plentiful pockmarks left by falling stones. On reaching the rocks, we found them almost unclimbable in their lower portion, and were forced out towards the middle of the couloir—a procedure which necessitated the crossing of a deep ice-clad stone chute. Thence we climbed over a small island of rocks all but submerged in verglas, from the upper end of which we were able

to traverse back and finally gain the rocks on the W. bank of the couloir, at a point where they were broken up and obviously easy to climb. None too soon, however, for hardly had the last man reached dry land when a stone fall clattered down the couloir behind us.

It was 8.30 ; we had been nearly three and a half hours under-way and for the best part of the time working at high pressure. On looking up towards the Peuteret ridge and Mont Blanc de Courmayeur, it appeared as if we had left all real difficulties behind us, and the optimists of the party prophesied being on the summit within a couple of hours. So, though the weather was fast becoming worse, we settled down light-heartedly to a second breakfast. The iron ration sausage was produced and attacked with gusto ; though of the same breed, it differed distinctly from the ordinary salami, which to me is somewhat reminiscent of cat and dog. Whatever its constituents may have been, it went down well, being as savoury as usual, but less salted and not so highly spiced. We allowed ourselves half an hour's grace, then stowed away our climbing irons and started up the rocks. They proved to be easy, though most unreliable. Here and there ice, covered more often than not by bad snow, took time to negotiate, but on the whole we made rapid progress. Shortly after ten we gained the end of the rocks ; slightly below us and to the right was Point 4381, where the snowy upper half of the Peuteret ridge begins. A little snow slope brought us out on the ridge itself, but not without free use of the axe. The snow was deep and very bad ; it lacked cohesion and concealed hard ice. Working along slightly on the Brenva side of the ridge, we at first found snow just sufficiently good to bear our weight in kicked steps, but in less than a rope's length it had become so bad that it had to be cleared away before the climbing irons would bite into the ice underneath. The spikes of my irons, fully three-quarters of an inch longer than those worn by the others, proved their value here. By merely stamping, I could force my foot far enough through the snow to grip the ice below. This was one of the several occasions arising on this expedition where the presence of an indifferent ice-climber would have proved not only troublesome but a real danger to the safety of the party, and a source of loss of much valuable time. After progressing in this manner for about a hundred metres, we got tired of threshing down the execrable snow, which seemed to get worse as we gained in altitude. Within easy reach both to the left and the right were rock ribs, which offered a less

tedious means of advance. A traverse of about thirty metres across the steep western flank of the Peuteret ridge brought us on to one of these ribs, the rocks of which soon showed themselves to be exceedingly rotten. Once more the climbing irons were removed and placed in our knapsacks. Oliver, at this point, had the misfortune to lose his axe; he placed it on a ledge where it lost its balance and fell down in a few stately bounds towards the Fresnay Glacier. It was while watching the axe disappear that I realised for the first time the enormous general steepness of the ground upon which we were climbing.

It now looked as if rocks could be followed practically all the way to the summit—a relief for which we were duly thankful, having had quite enough of snow. There was some difference of opinion as to the best line of ascent up these rocks; but, on the whole, there seems to have been little in our respective choices, for Adolf and Courtauld, whose route converged with that of our party from time to time, always succeeded in maintaining a lead of one or more rope's lengths. The climbing was difficult, and throughout extreme caution was necessary, on account of the unreliability of the rock. Occasionally, a belt of almost vertical red rock of a fair degree of firmness would crop up, but even this was invariably crowned with the rotten dark brown variety. Nevertheless, we climbed quickly, for while still 200 metres below Mont Blanc de Courmayeur, swirling mists practically obliterated all view of our surroundings, and it was evident that, if we were not soon to find ourselves in a critical situation, every minute gained was precious. The rocks came to an end about thirty metres below the summit of Mont Blanc de Courmayeur, and only a slope covered with the usual pernicious snow lay between us and safety. Adolf, trusting more to his climbing irons and to gentle treatment of the snow than to his ice-axe, climbed rapidly up to immediately beneath the cornice, cut himself a good step, and with a few powerful strokes hewed a channel through which he was speedily followed by Courtauld. While we were putting the finishing touches to the donning of extra clothing, in preparation for the cold weather up aloft, Adolf's stentorian voice shouted down a cheery 'Come along!' Looking up, I could just barely make out his well-muffled-up head framed in the notch in the cornice. Then he disappeared.

At 1.15 P.M. we, in turn, stepped through the cornice on to Mont Blanc de Courmayeur, to be greeted by a high and chilly wind. Adolf and Courtauld were already out of sight, though they were certainly not far away, for the jingling of their axes

against the rocks of a gendarme close by was audible above the sound of the gale. The mist was so thick that we could not see each other at rope's length. Adolf's tracks led off along the crest of the ridge towards Mont Blanc. Having painful memories from last year, however, of what this ridge could be like in stormy weather, I forsook his tracks and plunged down on to the Trélatête side, in the hopes of there finding more shelter from the icy blast. In view of Oliver's axeless condition this involved step-cutting; but, on looking back after having cut about twenty steps, I saw him coming along as nonchalantly as if he were on a London pavement, so immediately gave up further cutting and relied upon climbing irons alone. In this way we skirted round the bases of three or four rocky outcrops, and regained the ridge at about its lowest point between Mont Blanc and Mont Blanc de Courmayeur. A little farther on we found the other two, who were inclined to mistake a small snowy hump for the summit of Mont Blanc. To avoid the wind, we now crossed over on to the Brenva side of the ridge, and traversing diagonally upwards found tracks leading up from the Mur de la Côte. These were followed to the summit, where we arrived at 1.45 p.m., having been eight and three-quarter hours underway from our bivouac.

The state of the weather precluded descending by either the Rochers or the Dôme route, and we contented ourselves with going down directly to Chamonix. Being the only member of the party with first-hand knowledge of the Grands Mulets route, I was deputed to show the way. The descent was uneventful, except for Oliver's spraining his ankle, and for the fact that my pigheadedness in refusing to follow the tracks brought us out to the Pierre à l'Échelle, which route, I have since learnt, has been recently discarded in favour of the Montagne de la Côte.

This narrative would be incomplete were it brought to a close without expressing my admiration for the professional members of the party. Adolf and I were not unknown to each other, for twelve years ago, on a stormy September day, we had stood together on the summit of the Lyskamm. Since then, he has joined that select coterie of first-class guides whose number can almost be counted on one's fingers. He has climbed Mont Blanc by nearly every conceivable route, and thus knows the mountain better than any other living guide. I need say little of his prowess either on ice or on rock; he is first-rate on both. Last, but not least, he is an excellent companion, ever eager to be doing, and ready to put every

ounce of energy into any problem upon which he embarks. Alfred, who was serving only the second season of his apprenticeship, is fast following in his brother's footsteps. He too will, sooner or later, become a first-class guide. Four Courmayeur porters accompanied us up to the Col Supérieur du Fresnay. They carried heavy loads, but through all the trying situations that arose, they preserved their good humour and determination. Their conduct was admirable.

Note.—Those interested in photography may like to have the following particulars of my photographic equipment. I carried two cameras; the first a quarter-plate roll-film Ensign fitted with Compur shutter and Zeiss Tessar lens $f/4.5$, $F = 10.5$ cm.; total weight, including case, about 2 lb. My second camera was a Goerz Tenax roll-film, VPK size, fitted with Compur shutter and Goerz Dogmar lens $f/4.5$, $F = 7.5$ cm.; weight, 8 ozs. Three-quarter plate spools of twelve exposures each, and five VPK spools of eight exposures each (Kodak non-autographic speed film), were used. Two films were spoilt through omitting to wind the film after exposure. The remainder were satisfactory. The spools were packed separately in airtight and moisture-proof tins. No light filters were used.

THE FIRST WINTER ASCENTS OF THE VALLAISAN SUMMITS OVER 4000 M.

COMPILED BY MARCEL KURZ.

[Monsieur Marcel Kurz, the Swiss topographical engineer, is good enough to supply the following notes of first winter ascents. His own experience is considerable, as he has himself ascended, in winter, the summits marked *. His MS, which will be available at the A.C., contains notes of the principal attempts in which the summit was not actually gained, and of other completed ascents].

1. *Grand Combin* * (4317 m.).

F. F. Roget and Marcel Kurz with Maurice Crettez. March 31, 1907. Left Cabane Panossière 7.15; on ski to the foot of the Col du Meiten (10.55–11.15); Col du Meiten 11.45; Combin de Valsorey 14.30; Grand Combin 15.30–15.40. Back at Panossière 20.00. Excellent conditions. Rocks absolutely dry.